

JVC

VIDE-V26672

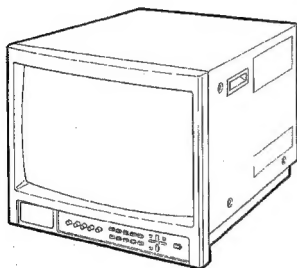
SERVICE MANUAL

COLOUR VIDEO MONITOR

BM-H2000PN

BASIC CHASSIS

BM



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SPECIFICATIONS

Item	Content	Item	Content
Color system	NTSC 3.58MHz, NTSC 4.43MHz, PAL	Y,R-Y,B-Y	RGB/COMPO
Picture tube	50cm diagonally measured, 90° deflection, in-line gun, dot pitch of 0.4 mm 399 x 298mm (W x H)	component	(1 line: common with analog RGB)
Screen size	750TV line or more	External sync	SYNC (1 line), BNC x 2
H. resolution		inputs	(with 1 bridge-connected output)
color temperature	D-6500K; $x = 0.313, y = 0.329$ D-9300K; $x = 0.263, y = 0.297$ (selectable)	Audio inputs	AUDIO A, B, RGB/COMPO (3 lines), RCA x 2 each (with 1 bridge-connected output)
Video inputs		Tally/remote	DIN (8-pin) x 1
Composite video	INPUT A, B (2 lines), BNC x 2 each (with 1 bridge-connected output) Termination switches provided	Audio power	
Y/C (1 line)	DIN (4-pin) x 2 (with 1 bridge-connected output) Termination switches provided	output	1.6W
Analog RGB	RGB/COMPO (1 line: common with Y, R- Y, B-Y), BNC x 6 (with 3 bridge-connected outputs) Termination switches provided	Operation	
		temperature	0-40°C (20-80% RH)
		Power	
		requirements	230V AC, 50/60Hz 0.6A maximum
		Power consumption	
		dimension	449 x 431 x 511mm (W x H x D)
		Mass	30kg

Design & specification subject to change without notice.

SAFETY PRECAUTIONS

1. The design of this product contains special hardware, many circuits and components specially for safety purposes.

For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.

2. Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.

3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by (Δ) on the parts list in Service manual.** The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.

4. **Don't short between the LIVE side ground and ISOLATED(NEUTRAL) side ground or EARTH side ground when repairing.**

Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND, the ISOLATED(NEUTRAL) : (Δ) side GND and EARTH : (⊕) side GND. Don't short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND and never measure with measuring apparatus (oscilloscope etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND at the same time.

If above note will not be kept, a fuse or any parts will be broken.

5. If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See ADJUSTMENT OF B1 POWER SUPPLY).

6. The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.

7. Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10kΩ 2W resistor to the anode button.

8. When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.

9. Isolation Check

(Safety for Electrical Shock Hazard)

After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, control knobs, metal cabinet, screwheads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

(1) Dielectric Strength Test

The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 3000V AC (r.m.s.) for a period of one second.

(... Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.)

This method of test requires a test equipment not generally found in the service trade.

(2) Leakage Current Check

Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.).

• Alternate Check Method

Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000 ohms per volt or more sensitivity in the following manner. Connect a 1500Ω 10W resistor paralleled by a 0.15μF AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.35V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.).

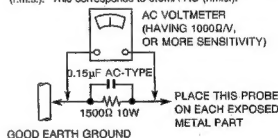


Fig.A

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Manual Change Information

SERVICE MANUAL

COLOUR VIDEO MONITOR

BM-H2000PN

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Since some details of the BM-H2000PN service manual (No.51042, Sep. 1995) were changed, we are informing you of these changes and of the new descriptions.

CHANGED ITEMS

EXPLODED VIEW PARTS LIST (Page 5)

△	SYMBOL No.	PARTS No.		PARTS NAME	DESCRIPTION
		PREVIOUS	NEW		
△	13	CM22909-001	CM22909-A01	CONTROL BRACKET	Inc.No.101 ~ 103
	16	CM46115-B01	CM46115-C01	POWER KNOB	
	100	CM12697-A0B-M0	CM12697-B0B-M0	FRONT PANEL ASSY	
	102	CM43094-001	CM43094-A01	JVC MARK	

PRINTED WIRING BOARD PARTS LIST

SIGNAL PW BOARD ASS'Y (FX-1072A) (Page 6)

△	SYMBOL No.	PARTS No.		PARTS NAME	DESCRIPTION
		PREVIOUS	NEW		
	D1502	MA3047(L)-X		CHIP ZENER DIODE	DELETE

CRT SOCKET PW BOARD ASS'Y (FX-3037A) (Page 12)

△	SYMBOL No.	PARTS No.		PARTS NAME	DESCRIPTION
		PREVIOUS	NEW		
	C3313		QFLC1HK-122MZ	M CAP.	1200pF 50V K

POWER PW BOARD ASS'Y (FX-9043A) (Page 16)

△	SYMBOL No.	PARTS No.		PARTS NAME	DESCRIPTION
		PREVIOUS	NEW		
	C8018	QEHC1HM-106MZ	QEHC1HM-226MZ	E CAP.	22 μ F 50V M

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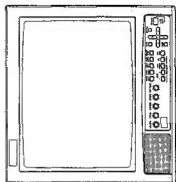
OPERATING INSTRUCTIONS

JVC

BM-H2000PN/BM-H1400PN/BM-1400PN COLOUR VIDEO MONITOR

INSTRUCTIONS: COLOUR VIDEO MONITOR
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 MANUEL D'INSTRUCTIONS : MONITEUR VIDEO COULEUR
 MANUALE DI ISTRUZIONI : MONITOR VIDEO A COLORI
 INSTRUCCIONES : MONITOR DE VIDEO A COLOR

BM-H2000PN BM-H1400PN BM-1400PN



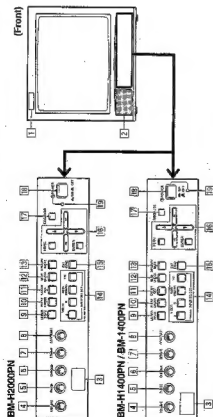
① Please to begin
 operation, read
 CARETAKING VCR

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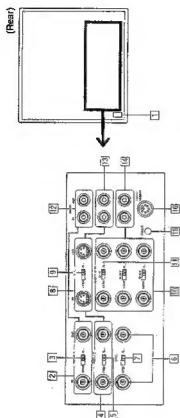
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CONTROLS AND FEATURES (FRONT)



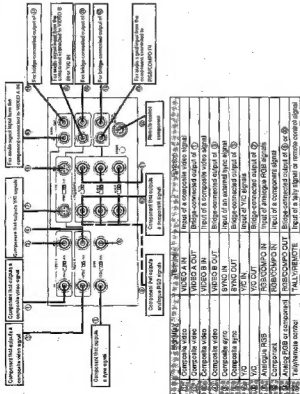
- 1 Tally lamp**
Glow to indicate when a tally signal is input to the TALLY/REMOTE terminal on this rear panel. (For terminal functions see Page 16).
- 2 Speaker**
Built-in speaker.
- 3 Remote control sensor**
Receives infra-red signals emitted from the optional wireless remote control.
- 4 VOLUME control**
Turn to adjust the speaker volume.
- 5 PHASE control**
Turn to adjust picture hue, using natural skin colour as a reference.
- 6 CHROMA control**
Turn to adjust picture colour density according to your requirements.
- 7 BRIGHT control**
Turn to adjust picture brightness according to your requirements.
- 8 CONTRAST control**
Turn to adjust the picture contrast according to your requirements.
- 9 UNDER SCAN switch**
Push to display the whole picture on screen by reducing the picture size.
- 10 PULSE CROSS switch**
Push to blank the picture frame (sync signal) by delaying input signal phase.
- 11 COLOR OFF switch**
Push to eliminate colour signals and display a black-and-white picture.
- 12 WHITE CHECK switch**
Push to adjust the white colour signal and display a monochrome blue picture.
- 13 MEMORY MODE switch**
Push to adjust the picture by recalling the adjustment data that you stored in memory.
- 14 INPUT SELECT switches**
Push to select the input source for the monitor video signal input.
- 15 EXT SYNC switch**
Push to synchronise the monitor with an external sync signal. This function is effective regardless of signal input.
- 16 MENU controls**
Use to operate on-screen menu functions.
- 17 DEGAUSS switch**
Push to degauss the picture tube.
- 18 POWER switch**
Push to turn the monitor on or off.
- 19 POWER indicator**
Glow to indicate that power is on.

TERMINALS AND FEATURES (REAR)



- 1 Power socket**
External power supply (230 V AC, 50/60 Hz) using the provided power cord.
- 2 VIDEO A terminal**
Composite video signal input terminal and bridge-connected output terminal. Linked with the VIDEO A terminals on that terminal block.
- 3 VIDEO B terminal**
Composite video signal input terminal and bridge-connected output terminal. Linked with the VIDEO B terminals on that terminal block.
- 4 VIDEO A termination switch**
Set to OPEN for bridge connection; set to 75Ω for input terminated connection.
- 5 VIDEO B termination switch**
Set to OPEN for bridge connection; set to 75Ω for input terminated connection.
- 6 SYNC terminal**
External sync signal input terminal and bridge-connected output terminal. Linked with the SYNC terminals on that terminal block.
- 7 SYNC termination switch**
Set to OPEN for bridge connection; set to 75Ω for input terminated connection.
- 8 RGB/COMPO terminal**
RGB signal input terminal and bridge-connected output terminal. Linked with the RGB/COMPO terminals on that terminal block.
- 9 TALLY/REMOTE terminal**
External input terminal of a tally signal to make the tally lamp glow, or of a remote-control signal to switch input or picture control.

■ The connection shown below is only an example. Terminals and their functions differ in accordance with it correspond to be connected. Also read and follow the instructions for this component.



Push the front panel EXT SYNC switch to ON, and the monitor operates to synchronise with an external sync signal input to the rear panel SYNC IN terminal.

Push the switch again to OFF, and the monitor operates to synchronise with a sync signal included in a video signal (if it includes a sync signal) input in a video input terminal.

Set RGB or COMPO. on screen to match the type of video signal input to the rear panel RGB/COMPO IN terminals.

Operation:

2. Press the **▲** or **▼** button to select RGB/COMPONENT.

4. Press the MENU button to complete.

Turn the VOLUME control to the right to increase the level, or to the left to decrease the level.

Component	Signal	Input/Output
VIDEO A	Composite video signal input to VIDEO A IN	
VIDEO B	Composite video signal input to VIDEO B IN	
Y/C	Y/C signal input to Y/C IN	
RGB	Analogue RGB signal input to RGB/COMPO IN	
COMPONENT	Digital signal input to RGB/COMPO IN	

Colour system indication		
Indication	Colour system	Frequency
NTSC	NTSC	3.58 MHz
PAL	PAL	4.43 MHz
SECAM	SECAM	4.43 MHz
None	None	None

After positioning near the monitor a speaker (non-magnetized) or other equipment that generates a strong magnetic field, or after relocating the monitor, colour patches could appear in the picture due to magnetization of the picture tube. If this occurs, push the DEGAUSS switch to demagnetize the picture.

- This function is not effective if activated a second time after a very short time has elapsed. When deactivating must be repeated, proceed after at least 10 minutes have passed since first deactivating.
- The optical wireless remote control requires a DEGAUSE key.

VIDEO SIGNAL CONTROLS

Push each switch to ON or OFF for video signal control.

UNDER SCAN

so the whole picture is displayed on screen. Use to check the picture frame.

Additional features are needed to help people with disabilities and older adults use the Internet more effectively. The National Center for Accessible Information Technology (NCAIT) is a national center for research and information on accessible information technology. NCAIT is a part of the National Institute on Disability and Rehabilitation Research (NIDRR), which is part of the U.S. Department of Education. NCAIT is a national center for research and information on accessible information technology. NCAIT is a part of the National Institute on Disability and Rehabilitation Research (NIDRR), which is part of the U.S. Department of Education.

COLOR OFF

	Sun	Tues	Wed	Thurs	Fri	Sat	Sun
PHASE	Yes	No	Yes	No	No	No	No
BRIGHT	Yes	Yes	Yes	Yes	No	Yes	Yes
BRIGHT	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CONTRAST	Yes	Yes	Yes	Yes	Yes	Yes	Yes



UNDER SCAN

Push the **UNDER SCAN** switch to reduce the dimensions of display area to the whole picture is displayed on screen. Use to check the picture frame.



PULSE CROSS

Push the PULSE CROSS switch to simultaneously display two blank areas crossed horizontally and vertically on screen ("Pulse Cross" display) by delaying the phase of the input signal. Use to check the vertical refresh period, equalizing pulse period, vertical sync period, horizontal sync period, or burst signal.

- This function is not effective for analogue RGB signal input.

NOTE

- This function is not effective for analogue IGB signal input.

COLOR OFF

Push the **COLOR OFF** switch to display a black-and-white picture by computing a luminance signal only. Use to check the noise contained in a luminance signal or white balance.

BLUE CHECK -

Push the BLUE CHECK switch to display a monochrome blue picture by alternating red and green signal components. Use to check or adjust the PHOSMA and/or PHASE controls.

MEMORY MODE

A set of picture settings can be programmed in memory for quick recall when necessary.

Recall/release of memory mode

Press the **MEMORY MODE** switch to recall a set of picture settings programmed in memory. The functions of the front-panel **PHASE**, **CHROMA**, **BRIGHT**, **CONTRAST** controls, and remote-control picture adjustment are to be operated.

Press again to release memory mode.

Setting programming of the picture being monitored —
The settings of the picture being monitored can be programmed in memory.

- Settings programmable in memory mode:
- Settings of the **CONTRAST**, **BRIGHT**, **CHROMA** and **PHASE** controls on the front panel
 - On-screen menu function settings (see also RECOMPONENT)
 - Remote-control picture adjustment settings

1. Check the **MEMORY MODE** switch is off.
2. Press the **MENU** button.
3. Press the **A** or **V** button to select **MEMORY MODE**. Then press the **ENTER** button to programme.
4. Press the **A** or **V** button to cancel.

Revision of memory mode

Programmed picture settings can be revised if necessary.

1. Press the **MEMORY MODE** switch to activate memory mode.
2. Press the **MENU** button to call up display [3] on screen.

MEMORY MODE (continued)

3. Press the **A** or **V** button to select a function to be revised.

Press the **ENTER** button after selecting **PICTURE ADJUSTMENT** to call up display [3].

After making all settings on screen, press the **MENU** button to make display [1] appear.

4. Press the **A** or **V** button to change the set level.

Adjustable **CONTRAST**, **BRIGHT**, **CHROMA** or **PHASE** range depends on each set level previously stored in memory. **MAX** appears to indicate maximum level that cannot be increased. **MIN** appears to indicate minimum level that cannot be decreased.

Variable setting range

PICTURE ADJUSTMENT	CONTRAST	BRIGHT	CHROMA	PHASE
	-20 to +20	-20 to +20	-20 to +20	-20 to +20
ASPECT RATIO	4:3	16:9		4:3
FILTER SELECT	COMB	BOTH	HOTCH	COMB
PEAKING FREQ.	2.5MHz	5.0MHz		2.5MHz
PEAKING LEVEL	0dB	10dB	20dB	30dB
AFC	NORMAL	FAST	SLOW	NORMAL
COLOR TEMP.	3000	6500		6500
NTSC SETUP	0	7.5		0
COMPO. LEVEL	SMPTE	BETA0	BETA1	SMPTE

NOTE

- The **ENTER** button to increase other function other than **PICTURE ADJUSTMENT** is selected, the on-screen display changes into a single-line display.
- After making a change in function, press the **MENU** button to restore display [1].

MEMORY MODE (REVISE)

Are you sure?
Yes: Press **ENTER**
No: Press **A** or **V**

[3]

5. With display [1] on screen, press the **MENU** button to make display [3] appear.

- Press the **ENTER** button to programme.
- Press the **A** or **V** button to cancel.

NOTE

- If you attempt to operate a failed function, "MEMORY MODE OFF" appears on screen for approx. 2 seconds to indicate the function cannot be operated.

NOTE

- Programmed picture settings are lost in memory after this system is turned off.

MEMORY MODE

Are you sure?
Yes: Press **ENTER**
No: Press **A** or **V**

NOTE

- No matter what video signal is input, if error appears on screen, however, the picture will be restored to normal. In this case, some functions might not operate even if their settings are made.

MEMORY MODE (REVISE)
Are you sure?
Yes: Press **ENTER**
No: Press **A** or **V**

[1]

SET-UP FOR MONITOR INSTALLATION (continued)

STATUS DISPLAY (setting the status display to on/off)

When the power is turned on the input mode is switched, the status display (colour system and input mode) appears on screen. The display can be set to on or off.

Function	Status display appears
ON	Status display appears
OFF	Status display does not appear

CONTROL LOCK (deactivation of front-control functions) —

Set CONTROL LOCK to ON on screen to deactivate the front-control functions (front VOLUME control and remote volume control are operable).

ON	Deactivates the front controls (except four-wheel drive controls).
OFF	Raises deactivated functions.

- If you attempt to operate a locked function, **CONTROL LOCK OFF** appears on screen for approx. 2 seconds to indicate the function cannot be operated.
- Once **CONTROL LOCK** is deactivated, the current settings of the thermostat controls, and holding time, are restored.
- If the power is turned off with **CONTROL LOCK** activated, the function is kept in memory.

To initialize both MENU/SET-UP MENU settings:

MENU and SET-UP MENU settings other than MEMORY MODE and PICTURE COMPONENT can be reset at the same time. In this case, PICTURE ADJUST settings via remote control are also reset, and the monitor's ID number is also reset to 00.

1. Press the **POWER** switch to turn the power off.
2. With the **▼** and **MENU** buttons pressed, press the **POWER** switch to turn the power on. Keep pressing the **▼** and **MENU** buttons until **ENTER** appears on screen.
3. Press the **▲** or **▼** button to select **SET-UP MENU/RESET**. Then press the **ENTER** button to display **03** on screen.
4. Press the **ENTER** button again to execute.
5. Press the **▲** or **▼** button to cancel.



NOTE

To Initialise MENU settings only

MENU settings (except MEMORY MODE and REACTION/COMMENT) can be

1. With the ∇ button pressed, press the MENU button to display  on screen.
2. ● Press the ENTER button to reset.

- **MENU and PICTURE ADJUST settings (except MEMORY MODE and RGB/COMPONENT) can also be simultaneously reset via the optional wireless remote control unit.**

1. Press the **MENU** key to display **MENU** on screen.
2. Press the **RESET** key to **erase**.

《664411》 开卷有益

Are you sure?

“66” 10个 2101
“NC” 11个 507

5

REMOTE CONTROLS

The optional wireless remote control unit (RM-C550W) operates the following:

- On-screen menu functions (MENU, SET-UP MENU, etc.)
- Picture adjustments (CONTRAST, BRIGHT, CHROMA, PHASE)
- Sound adjustments (VOLUME, MUTE)

On-screen menu remote operation

Remote keys and front controls with the same designation share the common functions. For detailed operation, see instructions about each menu function in this manual.

Picture adjustments

Each adjustable range depends on the setting of the front CONTRAST/BRIGHT/CHROMA or PHASE control. If an adjustment is made, the remote control level in the front control display changes. However, the remote control may indicate a certain change on screen but may not actually increase or decrease.

- Press the PICTURE key to display PICTURE ADJUST.
- Press the Δ or ∇ key to select an item.
- Press the \leftarrow or \rightarrow key to change the level.
 - Move the cursor to left (to decrease the level).
 - Move the cursor to right (to increase the level).
- Press the Δ or ∇ key to another item and repeat step 3.
- Press the PICTURE key to complete.

- To standardize all settings on PICTURE ADJUST:
After step 1, press the RESET key.

Sound adjustments

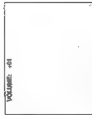
A variable range depends on the setting of the front VOLUME control. If audio level is remote-controlled with front VOLUME control, the approximately 10% increase or decrease in volume is indicated. A certain change in screen but may not actually increase or decrease.

- Press the VOLUME $-$ or $+$ key to decrease or increase the level (within 120).
- Press the MUTE key to mute the sound. MUTE appears on screen for approx. 3 seconds. Press again to release.

- NOTE**
- When changing the picture of analog RGB signals, composite signal for black-and-white signal, CHROMA and PHASE can not appear on screen. The remote control cannot operate these functions.
 - When a video signal to the PAL system is input to the monitor, PHASE does not appear and cannot be adjusted.



- NOTE**
- Each time the PICTURE key is pressed, the previous display is restored.



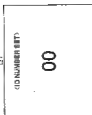
- NOTE**
- If the power is turned off with sound muted, the function to mute is not memory.
 - Press the MUTE key to mute the sound. MUTE appears on screen for approx. 3 seconds. Press again to release.

EACH REMOTE CONTROL OF PLURAL MONITORS

To operate or adjust plural units of monitors, by programming and assigning an ID number (00 to 99) for each monitor, a specified monitor can be remote-controlled.

To programme an ID number (use front controls):

- Press the POWER switch to turn the power off.
- With the ∇ and MENU buttons pressed, press the POWER switch to turn the power on. Keep pressing the ∇ and MENU buttons until \square appears.
- Press the Δ or ∇ button to select ID NUMBER SET. Then press the ENTER button to display \square .
- Press the \rightarrow button to increase.
 - Press the \leftarrow button to decrease.
- Press the ENTER button to programme.



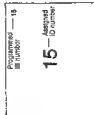
To call up an ID number (use remote unit):

- Press the DISPLAY key to indicate a programmed ID number at top right of the screen.
 - Red-indicated ID number:
Indicates the monitor can be remote-controlled.
 - Green-indicated ID number:
Indicates the monitor cannot be remote-controlled.
- Press the DISPLAY key to make the number disappear.



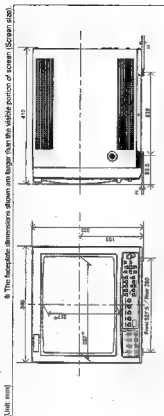
To assign a monitor (use remote control):

- Press the DISPLAY key to display the monitor's programmed ID number.
 - Press the numeric keys to enter the monitor's ID number.
- Press the ID SET key to complete.
- Press the ID SET key to complete.
- The programmed ID number in the top right of the screen turns red to indicate the monitor was assigned. Other monitors' ID number are indicated in green.
- After adjusting the monitor, repeat steps 2 to 4 to adjust each monitor if necessary.
- Press the DISPLAY key to clear on-screen ID numbers.

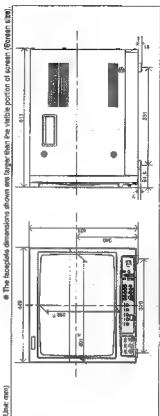


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BM-H1400PN / BM-1400PN



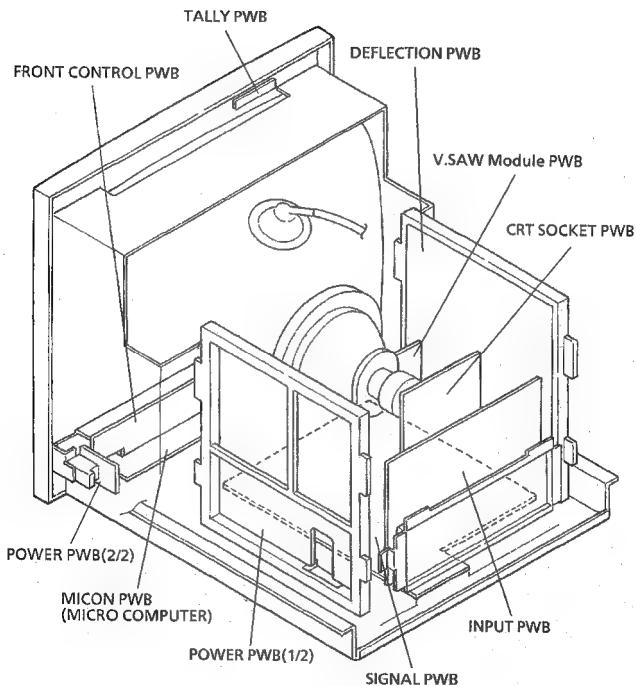
9M-H2000PM



a The facelife dimensions shown are larger than the visible portion of screen (Screen size).

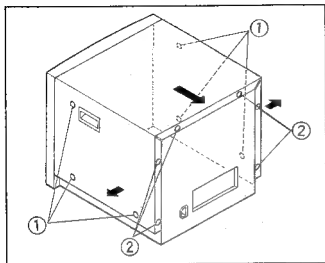
E. & O.E. Design and specifications subject to change without notice.

MAIN PARTS LOCATION



SPECIFIC SERVICE INSTRUCTIONS

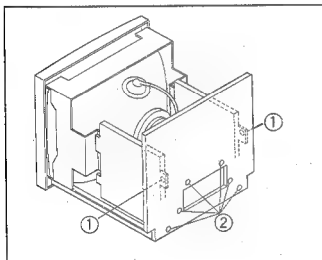
Disassembly



- Be sure to disconnect the power cord from the AC outlet before disassembly and reassembly. Use care since unless the power cord is disconnected, some parts may still be live even when the power switch is off.

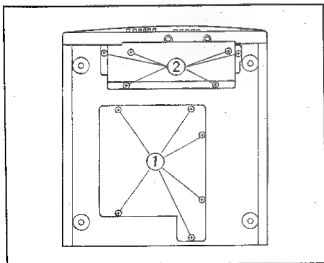
■ Top cover

1. Take out 6 screws ① and 6 screws ②.
2. Slightly spread the bottom part of the cover, shift it rearward and raise the top cover to remove it.



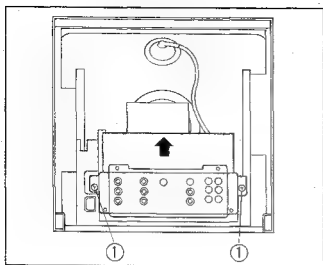
■ Rear panel

1. Remove the top cover.
2. Take out 2 screws ① and 6 screws ② to remove the rear panel.



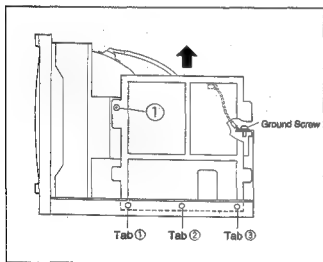
■ Bottom shield and shield cover

1. Remove the top cover and rear panel.
2. Take out 6 screws ① and remove the bottom shield.
3. Take out 6 screws ② and remove the shield cover.



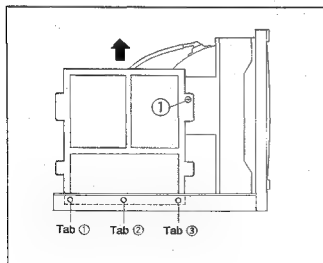
■ Input PWB

1. Remove the top cover and rear panel.
2. Take out 2 screws ①.
3. While pressing the lower signal PWB, pull upward and remove the input PWB. Use care regarding the tabs and engage the PWB to enable powered checks.



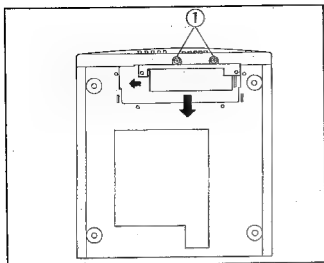
■ Power supply PWB

1. Remove the top cover and rear panel.
2. Take out 1 screw ①.
3. While raising the PWB, insert a screwdriver or similar tool to disengage tabs 1, 2 and 3, then remove the PWB.



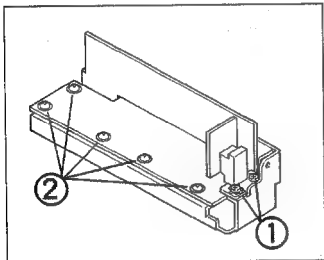
■ Deflection PWB

1. Remove the top cover and rear panel.
2. Take out 1 screw ①.
3. While raising the PWB, insert a screwdriver or similar tool to disengage tabs 1, 2 and 3, then remove the PWB.



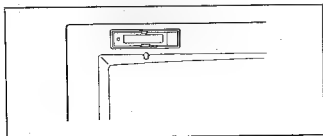
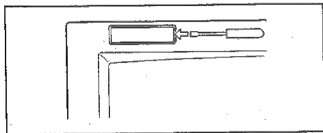
■ Front control brackets

1. Remove the shield cover.
2. Take out 2 screws ①.
3. Slide each bracket slightly toward the left, then pull downward to remove.



■ Power switch, front control PWB, CPU PWB

1. Remove the front control brackets (including CPU PWB).
2. Take out 2 screws ① and remove the power switch.
3. Take out 5 screws ② and remove the front control and CPU PWBs.
4. Disengage the connectors of the two PWBs.



■ Tally PWB

1. While using care not to scratch the front panel, insert a flat blade screwdriver into the edge of the tally cover and remove the cover.
2. Since the tally PWB appears, press the top and bottom tabs downward with the screwdriver.
3. Pull the PWB downward to tilt and remove the PWB.

REPLACEMENT OF CHIP COMPONENT

CAUTIONS

1. Avoid heating for more than 3 seconds.
2. Do not rub the electrodes and the resist parts of the pattern.
3. When removing a chip part, melt the solder adequately.
4. Do not reuse a chip part after removing it.

SOLDERING IRON

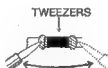
1. Use a high insulation soldering iron with a thin pointed end of it.
2. A 30w soldering iron is recommended for easily removing parts.

REPLACEMENT STEPS

1. How to remove Chip parts

•Resistors, capacitors, etc

- (1) As shown in the figure, push the part with tweezers and alternately melt the solder at each end.



- (2) Shift with tweezers and remove the chip part.



•Transistors, diodes, variable resistors, etc

- (1) Apply extra solder to each lead.



- (2) As shown in the figure, push the part with tweezers and alternately melt the solder at each lead. Shift and remove the chip part.

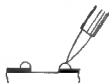


Note: After removing the part, remove remaining solder from the pattern.

2. How to install Chip parts

•Resistors, capacitors, etc

- (1) Apply solder to the pattern as indicated in the figure.



- (2) Grasp the chip part with tweezers and place it on the solder. Then heat and melt the solder at both ends of the chip part.



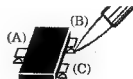
•Transistors, diodes, variable resistors, etc

- (1) Apply solder to the pattern as indicated in the figure.

- (2) Grasp the chip part with tweezers and place it on the solder.

- (3) First solder lead A as indicated in the figure.

- (4) Then solder leads B and C.



Service menu entry

- If the separately sold remote controller (RM-C550W) is available, this can be used for adjustments. Normally, perform adjustments using the set front control panel.
1. While holding Enter depressed, press Degauss.
 2. The letter S appears at the upper left of the screen.
 3. While holding Enter depressed, press Menu.
 4. The screen display changes to <SERVICE MENU> PLEASE, DON'T TOUCH!
 5. Press the left [←] or right arrow [→] to display the service menu.
- If Step 4 state continues for more than 11 seconds without a further operation, the display extinguishes and the mode is released.

Item selection

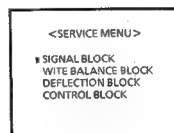
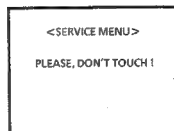
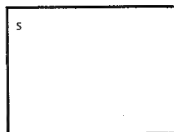
- While the service main menu is displayed:
1. Press the up [↑] or down arrow [↓] to select the item.
 2. After selecting the item, press Enter.
 3. The adjustment mode menu is displayed.

Setting value change

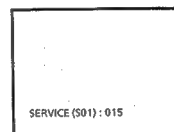
- While the adjustment mode menu is displayed:
1. Press the right arrow [→] to change the setting value in the + direction.
 2. Press the left arrow [←] to change the setting value in the - direction.
 3. Press the up [↑] or down arrow [↓] to change the adjustment item number.

Service menu exit

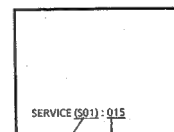
1. When settings are completed, press Menu.
2. The service main menu returns.
3. Again press Menu.
4. The screen display extinguishes and the service mode is exited.



Service main menu



Adjustment mode menu



Adjustment item number

Setting value

■ Signal system settings

No.	Input	Signal	Item	Data type	Variable range	Initial value
S01			Bright	Standard value	0~63	15
S02	Video	NTSC	Chroma	Standard value	0~63	32
S03	Video	NTSC	Phase	Standard value	0~63	32
S04	Video	NTSC	Contrast	Standard value	0~63	32
S05	Video	PAL	Chroma	Standard value	0~63	32
S06	Video	PAL N443	Contrast	Standard value	0~63	32
S07	Video Y/C	N443	Phase	Standard value	0~63	32
S08	Y/C	NTSC	Chroma	Standard value	0~63	32
S09	Y/C	NTSC	Phase	Standard value	0~63	32
S10	Y/C	NTSC PAL N443	Contrast	Standard value	0~63	32
S11	Y/C	PAL	Chroma	Standard value	0~63	32
S12	Color difference	N10/ SMPTE	Chroma	Standard value	0~63	32
S13	Color difference		Contrast	Standard value	0~63	32
S14	RGB		Contrast	Standard value	0~63	32
S15	Video	N443	Chroma	Correction value	0~255	3
S16	Y/C	N443	Chroma	Correction value	0~255	3
S17	Color difference	BETA	Chroma	Correction value	0~255	247
S18			Bright →pulse cross	Correction value	0~255	20
S19			Contrast →pulse cross	Correction value	0~255	236
S20			Bright →underscan	Correction value	0~255	0
S21			Contrast →underscan	Correction value	0~255	252
S22			Bright →16 : 9	Correction value	0~255	0
S23			Contrast →16 : 9	Correction value	0~255	250
S24	Video	SECAM	Chroma	Standard value	0~63	32
S25	Video	SECAM	Contrast	Standard value	0~63	32
S26	Y/C	SECAM	Chroma	Standard value	0~63	32

No.	Input	Signal	Item	Data type	Variable range	Initial value
S27	Y/C	SECAM	Contrast	Standard value	0~63	32
S28			Peak Drive Limit	Fixed value	0~255	45
S29			Control Reg - 1	Fixed value	0~255	193
S30			Control Reg - 2	Fixed value	0~255	0
S31	Video	NTSC,B/ W 60	Y Delay	Fixed value	0~255	65
S32	Y/C	NTSC,B/ W 60	Y Delay	Fixed value	0~255	73
S33	Video	PAL,B/W 50	Y Delay	Fixed value	0~255	82
S34	Y/C	PAL,B/W 50	Y Delay	Fixed value	0~255	82
S35	Video	N443	Y Delay	Fixed value	0~255	82
S36	Y/C	N443	Y Delay	Fixed value	0~255	82
S37	Video	SECAM	Y Delay	Fixed value	0~255	82
S38	Y/C	SECAM	Y Delay	Fixed value	0~255	82
S39	Color difference		Y Delay	Fixed value	0~255	64

■ White balance settings

No.	Color temperature	Scan	Item	Data type	Variable range	Initial value
W01	9300	Normal	R - Cutoff	Standard value	0~63	37
W02	9300	Normal	G - Cutoff	Standard value	0~63	25
W03	9300	Normal	B - Cutoff	Standard value	0~63	23
W04	9300	Normal	R - Drive	Standard value	0~63	34
W05	9300	Normal	G - Drive	Standard value	0~63	32
W06	9300	Normal	B - Drive	Standard value	0~63	30
W07	6500	Normal	R - Cutoff	Standard value	0~63	48
W08	6500	Normal	G - Cutoff	Standard value	0~63	25
W09	6500	Normal	B - Cutoff	Standard value	0~63	12
W10	6500	Normal	R - Drive	Standard value	0~63	37
W11	6500	Normal	G - Drive	Standard value	0~63	32
W12	6500	Normal	B - Drive	Standard value	0~63	24

No.	Color temperature	Scan	Item	Data type	Variable range	Initial value
W13	3200	Normal	R - Cutoff	Standard value	0~63	Not used(32)
W14	3200	Normal	G - Cutoff	Standard value	0~63	Not used(32)
W15	3200	Normal	B - Cutoff	Standard value	0~63	Not used(32)
W16	3200	Normal	R - Drive	Standard value	0~63	Not used(32)
W17	3200	Normal	G - Drive	Standard value	0~63	Not used(32)
W18	3200	Normal	B - Drive	Standard value	0~63	Not used(32)
W19		Under	R - Cutoff	Correction value	0~255	0
W20		Under	G - Cutoff	Correction value	0~255	0
W21		Under	B - Cutoff	Correction value	0~255	0
W22		Under	R - Drive	Correction value	0~255	0
W23		Under	G - Drive	Correction value	0~255	0
W24		Under	B - Drive	Correction value	0~255	0
W25		16 : 9	R - Cutoff	Correction value	0~255	0
W26		16 : 9	G - Cutoff	Correction value	0~255	0
W27		16 : 9	B - Cutoff	Correction value	0~255	0
W28		16 : 9	R - Drive	Correction value	0~255	0
W29		16 : 9	G - Drive	Correction value	0~255	0
W30		16 : 9	B - Drive	Correction value	0~255	0

■ Deflection system settings

No.	Scan	Input	V. frequency	Item	Variable range	Initial value
D01	Normal	Video	60Hz	V-Size →Standard value	0~63	38
D02	Normal	Video	60Hz	V-Shift →Standard value	0~63	32
D03	Normal	Video	60Hz	V-Linearity →Standard value	0~15	7
D04	Normal	Video	60Hz	S-Correction →Standard value	0~15	15
D05	Normal	Video	60Hz	H-Size →Standard value	0~63	26
D06	Normal	Video	60Hz	H-Shift →Standard value	0~63	32
D07	Normal	Video	60Hz	Pin-AMP →Standard value	0~63	41
D08	Normal	Video	50Hz/60Hz	HV-COMP-V →Standard value	0~7	7
D09	Normal	Video	50Hz/60Hz	HV-COMP-H →Standard value	0~7	0
D10	Normal	Video	50Hz	V-Size →Standard value	0~255	40
D11	Normal	Video	50Hz	V-Shift →Standard value	0~255	29
D12	Normal	Video	50Hz	V-Linearity →Standard value	0~255	8
D13	Normal	Video	50Hz	S-Correction →Standard value	0~255	15
D14	Normal	Video	50Hz	H-Size →Standard value	0~255	29
D15	Normal	Video	50Hz	H-Shift →Standard value	0~255	32
D16	Normal	Video	50Hz	Pin-AMP →Standard value	0~255	40
D17	Under	Video	50Hz/60Hz	V-Size →Correction value	0~255	230
D18	Under	Video	50Hz/60Hz	V-Shift →Correction value	0~255	0
D19	Under	Video	50Hz/60Hz	V-Linearity →Correction value	0~255	0
D20	Under	Video	50Hz/60Hz	S-Correction →Correction value	0~255	0
D21	Under	Video	50Hz/60Hz	H-Size →Correction value	0~255	0
D22	Under	Video	50Hz/60Hz	H-Shift →Correction value	0~255	0
D23	Under	Video	50Hz/60Hz	Pin-AMP →Correction value	0~255	2
D24	Under	Video	50Hz/60Hz	HV-COMP-V →Correction value	0~255	0
D25	Under	Video	50Hz/60Hz	HV-COMP-H →Correction value	0~255	0
D26	16 : 9	Video	50Hz/60Hz	V-Size →Correction value	0~255	0
D27	16 : 9	Video	50Hz/60Hz	V-Shift →Correction value	0~255	0
D28	16 : 9	Video	50Hz/60Hz	V-Linearity →Correction value	0~255	0
D29	16 : 9	Video	50Hz/60Hz	S-Correction →Correction value	0~255	0
D30	16 : 9	Video	50Hz/60Hz	H-Size →Correction value	0~255	0

No.	Scan	Input	V. frequency	Item	Variable range	Initial value
D31	16 : 9	Video	50Hz/60Hz	H-Shift	→Correction value	0 ~ 255
D32	16 : 9	Video	50Hz/60Hz	Pin-AMP	→Correction value	0 ~ 255
D33		RGB	60Hz	V-Shift	→Correction value	0 ~ 255
D34		RGB	60Hz	H-Shift	→Correction value	0 ~ 255
D35		RGB	50Hz	V-Shift	→Correction value	0 ~ 255
D36		RGB	50Hz	H-Shift	→Correction value	0 ~ 255
D37	Pulse Cross		50Hz/60Hz	V-Shift	→Correction value	0 ~ 255
D38	Pulse Cross		50Hz/60Hz	H-Shift	→Correction value	0 ~ 255
D39	External SYNC		50Hz/60Hz	V-Shift	→Correction value	0 ~ 255
D40	External SYNC		50Hz/60Hz	H-Shift	→Correction value	0 ~ 255
D41	TILT		50Hz/60Hz	TILT	→Fixed value	0 ~ 255
D42	U/L Corner Pin		50Hz/60Hz	U/L CORNER PIN	→Fixed value	0 ~ 255
D43	V-BOW/V-ANGLE		50Hz/60Hz	V-BOW/V-ANGLE	→Fixed value	0 ~ 255

■ Control system setting

No.	Item	Variable range	Initial value	Remarks
C01	Color TEMP. Default	0 ~ 255	1	Color temperature initial setting 1:6500K,2:9300K
C02	Menu display time	0 ~ 255	0	Menu display time 0: extinguish after 5 minutes, 1: continuous
C03	OSDC Color	0 ~ 255	7	On-screen color setting, power off/on needed after changing (see table next page)
C04	OSDC H.Position	0 ~ 255	5	On-screen H. position 0 - 15
C05	OSDC V.Position (60Hz)	0 ~ 255	1	On-screen V. position (60 Hz) 0 - 15
C06	OSDC V.Position (50Hz)	0 ~ 255	2	On-screen V. position (50 Hz) 0 - 15
C07	Bright Data to MAX	0 ~ 255	20	Effective brightness range from center detent to maximum
C08	Bright Data to MIN	0 ~ 255	20	Effective brightness range from center detent to minimum

No.	Item	Variable range	Initial value	Remarks
C09	Chroma Data to MAX	0~255	30	Effective chroma range from center detent to maximum
C10	Chroma Data to MIN	0~255	50	Effective chroma range from center detent to minimum
C11	Contrast Data to MAX	0~255	20	Effective contrast range from center detent to maximum
C12	Contrast Data to MIN	0~255	20	Effective contrast range from center detent to minimum
C13	Phase Data to MAX	0~255	30	Effective phase range from center detent to maximum
C14	Phase Data to MIN	0~255	30	Effective phase range from center detent to minimum
C15	Signal	0~255	10	Signal Status display check time when signal change or display after data x 32 ms when counter is 0 - 127, not displayed when 127 - 255
C16	System detect	0~255	0	0: automatic, 1: 3.58 MHz, 2: 4.43 MHz

No.	On-screen color setting data	No.	On-screen color setting data
129	Blue	0	Black (darkens during blue check)
130	Green	1	Black (brightens during blue check)
131	Aqua	2	Green (darkens during blue check)
132	Red	3	Green (brightens during blue check)
133	Magenta	4	Red (darkens during blue check)
134	Yellow	5	Red (brightens during blue check)
135	White	6	Orange (darkens during blue check)
136	Black	7	Orange (brightens during blue check)

Set-up menu entry

- If the separately sold remote controller (RM-C550W) is available, this can be used for adjustments. Normally, perform adjustments using the set front control panel.
1. While holding Enter depressed, press Menu.
 2. The Set-up menu is displayed on the screen.

Item selection

■ Size/centering, white balance adjust, remote select

- Size/centering items are displayed only when RGB input is selected.
1. Press the up [↑] or down arrow [↓] to select Size/Centering items.
 2. After selecting the item, press Enter.
 3. The adjustment mode menu is displayed.
 4. Again press Enter to display the adjustment mode sub-menu for each adjustment item (select adjustment item with up [↑] or down arrow [↓]).
 5. Press Menu to display the original adjustment mode menu.
 6. Perform in the same manner for White balance adjust and Remote select.

■ Status display

1. Press the up [↑] or down arrow [↓] to select the status display items.
2. Press the left [←] or right arrow [→] to select on/off.

■ Control lock

- Except for sound volume, all control operations are inhibited from the front control buttons, Phase, Chroma, Bright and Contrast controls, and the remote controller (sound volume remains operational).
1. Press the up [↑] or down arrow [↓] to select Control Lock.
 2. Press the left [←] or right arrow [→] to select on/off.
 3. The status just prior to selecting On is held and after exiting the set-up main menu, control adjustment is inhibited.
 4. To release the control lock, press Enter and Menu to display the set-up main menu, then set Control Lock to Off.

<SET-UP MENU>

■ SIZE/CENTERING
WHITE BALANCE ADJUST
REMOTE SELECT
STATUS DISPLAY : ON
CONTROL LOCK : OFF

Set-up main menu

<SIZE/CENTERING>

■ H.SIZE : +05
V.SIZE : -05
H.POSITION : +03
V.POSITION : -07

Adjustment mode menu

H.SIZE : +05

V.SIZE : -05

H.POSITION : +03

V.POSITION : -07

Adjustment mode sub-menu

H.SIZE → V.SIZE → H.POSITION → V.POSITION

Setting value change

- Set for displaying the adjustment mode menu or the adjustment mode sub-menu.
1. Press the right arrow [→] to change the adjustment value in the + direction.
 2. Press the left arrow [←] to change the adjustment value in the - direction.
 3. Press the up [↑] or down arrow [↓] to change the adjustment item.
 4. Press Menu to return the set-up main menu. (At the adjustment mode sub-menu, again press Menu.)

Set-up menu exit

1. When settings are complete, press Menu.
2. The screen display extinguishes and the set-up menu is exited.

Set-up menu checks

■ White balance

To check if adjustment has changed:

1. Press Menu to display the user main menu.
2. If an asterisk (*) appears at the Color Temp. item, the setting has been changed.

■ Set-up menu initialize

To return changed Size/Centering and White Balance Adjust to original status (initialize):

1. Hold the mainframe down arrow [↓] and Menu depressed, and set power on (inoperable from remote controller).
2. The initialize menu is displayed (hold depressed until menu appears).
3. Select Set-up Menu Reset and press Enter.
4. The set-up reset menu is displayed.
5. Press Enter to return the standard settings. Note that Remote Elect, Status Display and Control Lock are initialized and ID No. is cleared to 0.

< MENU >

ASPECT RATIO : 4:3
COLOR TEMP. : 6500*
RGB/COMPONENT : RGB

User main menu

< INITIALIZE MENU >

ID NUMBER SET
* < SET-UP MENU > RESET

Initialize menu

< SET-UP MENU > RESET
Are you sure ?
"Yes" then [ENTER]
"No" then [←] or [→]

Set-up reset menu

Memory IC replacement notes

This model uses non-volatile memory ICs. When these are replaced, the data must be reset.

Video and deflection system data are stored in IC103. If this is replaced without entering the data, a normal picture will not be obtained. When replacing, be sure to use an IC(ST24BM-1400) containing the (initial value) data.

■ Set-up menu record

Press Menu and at the menu display, check if an asterisk (*) appears after Color Temp. If the asterisk appears, the user has set the values according to personal preference. To the extent possible, make a memo of the setting values before replacing the IC.

■ IC replacement steps

1. To the extent possible, make a memo of the set-up menu and adjustment mode menu contents.
2. Switch off the power and disconnect the power cord from the outlet.
3. Replace IC103.
4. Reconnect the power cord to the outlet and switch power on.
5. Refer to the memo and enter the setting values.
6. Perform adjustments according to the adjustment items.

SERVICE ADJUSTMENTS

PRIOR TO STARTING ADJUSTMENT

1. Supply power to the set and measuring instruments and allow to warm up for at least 30 minutes.
2. Confirm the proper AC power voltage is being supplied.
3. Use care not to disturb controls and switches not mentioned in the adjustment items.
4. Refer to adjustment settings and set user operated controls (bright, contrast, hue, tint, etc.) to the indicated positions.

TOOLS AND FIXTURES FOR ADJUSTMENT

- DC voltmeter (digital voltmeter)
 - Oscilloscope
 - Signal generator (PAL/NTSC systems)
 - Color bar and split color bar patterns
 - Crosshatch pattern
 - Cross pattern
 - Red raster pattern
 - Green raster pattern
 - Blue raster pattern
 - Philippe pattern (including R-Y and B-Y)
 - TV resolution pattern
 - Remote control unit (RM-C550W)
 - Color analyzer
 - High voltage meter
- Desirable
Desirable
Adjustments easier if available
Desirable
Desirable

ADJUSTMENT SETTINGS

1. Front controls

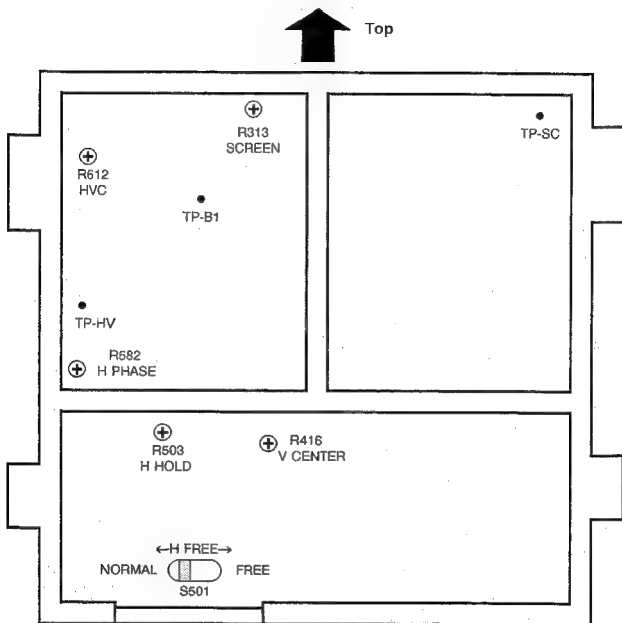
CONTRAST	Detent
CONTRAST	Detent
BRIGHT	Detent
CHROMA	Detent
PHASE	Detent
VOLUME MIN	Detent
2. Front switches

INPUT SELECT	VIDEO A	
EXT SYNC	INT	Switched not depressed
UNDER SCAN	OVER	•
PULSE CROSS	OFF	•
COLOR OFF	COLOR	•
BLUE CHECK	OFF	•
MEMORY MODE	OFF	•
3. Menu screen

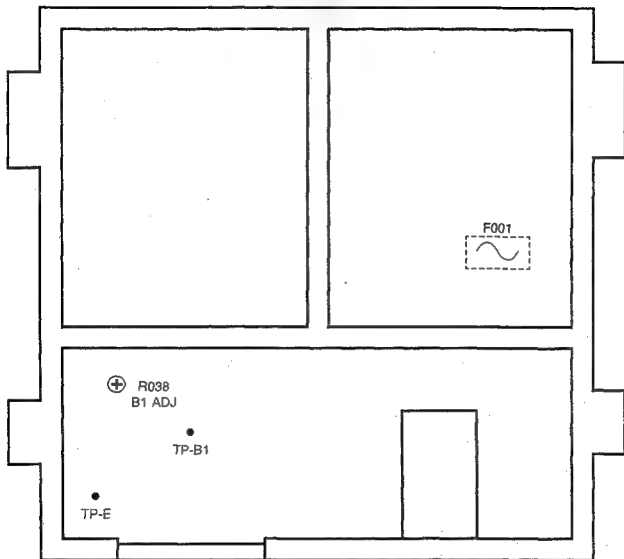
ASPECT RATIO	4 - 3
FILTER SELECT	COMB
PEAKING FREQ.	2.6MHz
PEAKING LEVEL	0dB
AFC	NORMAL
COLOR TEMP.	<u>9300</u>
NTSC SETUP	0
COMPO. LEVEL	SMPTE
RGB/COMPONENT	RGB

ADJUSTMENT LOCATIONS

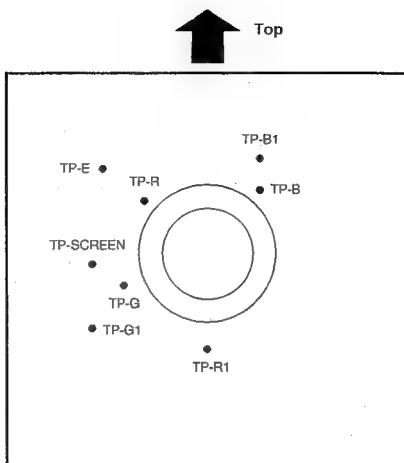
■ Deflection PWB (pattern side)



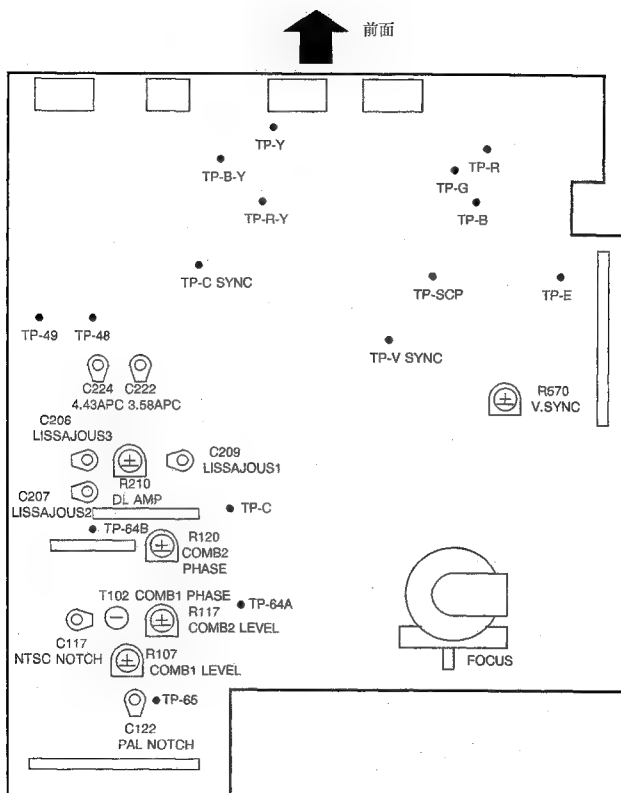
■ Power PWB (pattern side)



■CRT socket PWB (pattern side)



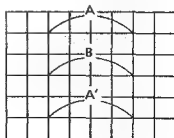
■Signal PWB (parts side)






ADJUSTING STEP

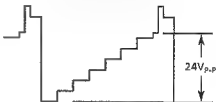
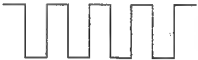
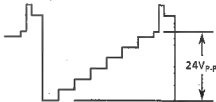

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
B1 voltage check	Voltmeter Variable transformer	TP-B1 TP-E	R038 (B1 adj) [Power PBW]	<ol style="list-style-type: none"> 1. Set power supply voltage to 90 V. 2. Set contrast and bright to minimum and produce a black screen. 3. Connect voltmeter between TP-B1 and TP-E. Switch on power. 4. Adjust R038 (B1 adj) to set the B1 voltage to 85.0 ± 0.2 V. 5. Set the power supply voltage to 132 V. 6. Check for B1 voltage of 85.0 ± 0.2 V. 7. Return the contrast and bright controls to the detent positions.
High voltage check	High voltage meter Signal generator (All-black signal)			<ol style="list-style-type: none"> 1. Set the Ext Sync switch to Ext. 2. Connect a synchronization signal to Ext Sync. 3. When the raster appears, reduce the bright control. 4. Connect the high voltage meter to the anode and check for 24.0 - 25.0 KV. 5. Return the Ext Sync switch to Int.
v.deflection center	Signal generator (Resolution pattern)		D02(NTSC V SHIFT) [SERVICE MENU] R416(V CENTER) [Deflection PWB]	<ul style="list-style-type: none"> • Perform after purity adjustment. • Adjust deflection yoke inclination. <ol style="list-style-type: none"> 1. At service menu, set D02 to 32. 2. Adjust R416 (V phase) to align the picture center with the CRT center.
Screen	Oscilloscope Signal generator (Color bar)	TP-SC	R313 (SCREEN) [Deflection PWB]	<ol style="list-style-type: none"> 1. Connect oscilloscope to TP-SC. 2. Adjust R313 (Screen) to set the screen voltage to 450 ± 10 V.
Focus	Signal generator (Resolution pattern)		FOCUS VR [HVT]	<ol style="list-style-type: none"> 1. Adjust the Focus VR for optimum focus where moire is not apparent. 2. Darken the picture and adjust the focus by turning counter-clockwise from the position where focus is poor. 3. Alternately repeat the above steps to obtain the optimum position. <ul style="list-style-type: none"> • Focus can be adjusted easily by displaying the menu.
H frequency	Signal generator (Resolution pattern)		D06(H SHIFT) [SERVICE MENU] S501 (H FREE SW) R503(H HOLD) [Deflection PWB]	<ol style="list-style-type: none"> 1. At the service menu, set D06 to 32. 2. Set S501 (H Free SW) to Free. 3. Adjust screen sync with R503 (H Hold). 4. Set S501 (H Free SW) to Normal. 5. Change the signal, then return the previous signal. Confirm absence of sync disturbance.
H center (NTSC)	Signal generator (Resolution pattern)		D06(H SHIFT) [SERVICE MENU] R582(H PHASE) [Deflection PWB]	<ol style="list-style-type: none"> 1. At the service menu, set D06 to 32. 2. Adjust R582 (H Phase) to align the picture center with the CRT center.


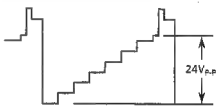


Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
HVC	Voltmeter Signal generator (All-black signal)	TP-HV	R612(HVC) [Deflection PWB]	<ol style="list-style-type: none"> 1. Set Ext Sync to Ext and supply a horizontal sync signal input. 2. When the raster appears, reduce the Bright control. 3. Connect the voltmeter to TP-HV. 4. Adjust R612 (HVC) for 2.0 ± 0.1 V.
H gain (NTSC)	Signal generator (Resolution or crosshatch pattern)		D05(H SIZE) D21(H SIZE) D22(H SHIFT) [SERVICE MENU]	<ol style="list-style-type: none"> 1. At the service menu, set D05 to adjust the horizontal size to 95 %. 2. Set the Scan Size to Under. 3. Set D21 to 00. 4. Set D22 to 253. 5. Return the Scan Size to normal.
H center H gain (PAL)	Signal generator (Resolution or crosshatch pattern)		D15(H SHIFT) D14(H SIZE) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Adjust D15 to align the picture center with the CRT center. 2. Adjust D14 to set the horizontal size to 95 %.
V gain, V center, V linearity (NTSC)	Signal generator (Resolution pattern)		D03(V LINEARITY) D01(V SIZE) D17(V SIZE) D19(V LINEARITY) D18(V SHIFT) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Check that the horizontal line of the video signal center is at the CRT center (if shifted, adjust R416). 2. Adjust the picture vertical linearity (scan ratio) with D03. 3. Adjust the screen top and bottom edges to 95 % with D01. 4. Set the Scan Size to Under. 5. Set D17 to 230. 6. Set D19 to 00. 7. Set D18 to 00. 8. Return the Scan Size to normal.
V gain, V center, V linearity (PAL)	Signal generator (Resolution pattern)		D11(V SHIFT) D12(V LINEARITY) D10(V SIZE) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Adjust D11 to align the video signal center with the CRT center. 2. Adjust the picture vertical linearity (scan ratio) with D12. 3. Adjust the screen top and bottom edges to 95 % with D10.
Side pincushion (NTSC/PAL)	Signal generator (Crosshatch NTSC/PAL)		D07(PIN AMP) D23(PIN AMP) D16(PIN AMP) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Adjust side pincushion with D07 so that $A = B$. 2. Set the Scan Size to Under. 3. Adjust side pincushion with D23 so that $A = B$. 4. Supply a PAL crosshatch input. 5. Return the Scan Size to normal. 6. Adjust side pincushion with D16 so that $A = B$.





Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
Comb filter (NTSC)	Oscilloscope Signal generator (Color bar)	TP-64A TP-64B	R107 (COMB1 LEVEL) T102 (COMB1 PHASE) R117 (COMB2 LEVEL) R120 (COMB2 PHASE) [Signal PWB]	<ol style="list-style-type: none"> 1. Set the menu Filter Select to Comb. 2. Connect oscilloscope to TP-64A. 3. Alternately adjust R107 and T102 to minimize the chroma component.  <ol style="list-style-type: none"> 4. Connect oscilloscope to TP-64. 5. Alternately adjust R117 and R120 to minimize the chroma component. 
Notch filter	Oscilloscope Signal generator (Color bar NTSC/PAL)	TP-65	C117 (NTSC NOTCH) C122 (PAL NOTCH) [Signal PWB]	<ol style="list-style-type: none"> 1. Set the menu Filter Select to Notch. 2. Connect oscilloscope to TP-65. 3. Adjust C117 to minimize the chroma component. 4. Supply a PAL color bar input. 5. Adjust C122 to minimize the chroma component. 
Color sync (NTSC)	Signal generator (Color bar) 10 K Ω resistor Shorting fixture		C222(3.58APC) [Signal PWB]	<ol style="list-style-type: none"> 1. Connect a 10 KΩ resistor between IC201 pin 13 and +B (12 V). 2. Connect a shorting fixture between IC201 pin 14 and ground. 3. Adjust to synchronize the color bar with C222. 4. Remove the resistor and shorting fixture. 5. Change the input signal, then return the color bar. Confirm absence of sync disturbance.

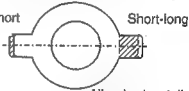
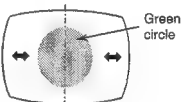
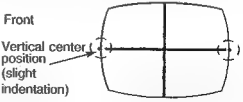
Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
APC (PAL)	Oscilloscope Signal generator (Color bar, split color bar) 10 K Ω resistor Shorting fixture	TP-48 TP-49	C224(4.43APC) R210(DL AMP) C206(LISSAJOUS 3) C207(LISSAJOUS 2) C209 [Signal PWB]	<ol style="list-style-type: none"> 1. Connect a 10 KΩ resistor between IC201 pin 13 and +B (12 V). 2. Connect a shorting fixture between IC201 pin 14 and ground. 3. Adjust to synchronize the color bar with C224. 4. Remove the resistor and shorting fixture. 5. Connect an oscilloscope to TP-48 and TP-49 and display X-Y coordinates. 6. Adjust R210 and C206 to obtain the waveform indicated in the figure. If inadequate, adjust C207 and C209. <div data-bbox="609 448 916 604"> </div> <ol style="list-style-type: none"> 7. Supply a PAL split color bar input and adjust C224 to minimize coloration in the R-Y and B-Y components.
Pulse cross	Signal generator (Color bar NTSC/PAL)		R570(V.SYNC) [Signal PWB]	<ol style="list-style-type: none"> 1. Set the pulse cross switch to on. 2. Adjust R570 to eliminate luminance and burst signal variation in the V blanking period. 3. Supply a PAL color bar input. 4. Confirm absence of luminance and burst signal variation in the V blanking period. 5. Again supply an NTSC color bar input and again confirm absence of luminance and burst signal variation in the V blanking period. 6. If variation is present, again adjust R570. 7. Set the pulse cross switch to off.
Chroma and phase (Video input, NTSC)	Oscilloscope Signal generator (Color bar)	TP-B [CRT socket PWB]	S02(CHROMA) S03(PHASE) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Supply an NTSC color bar to Video A. 2. Set the menu Filter Select to Notch. 3. Connect oscilloscope to TP-B. 4. Alternately adjust S02 and S03 to obtain a straight line waveform. 5. Set Filter Select to Comb. <div data-bbox="642 1074 896 1153"> </div>

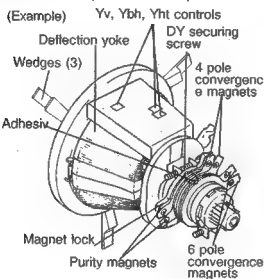
Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
Contrast (Video input, NTSC)	Oscilloscope Signal generator (Color bar)	TP-G [CRT socket PWB]	S04 (CONTRAST) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Supply an NTSC color bar input to Video A. 2. Set the Color Off switch to off. 3. Connect oscilloscope to TP-G. 4. Adjust the waveform level to 24 V_{p-p} with S04. 5. Set the Color Off switch to Color. 
Chroma (Video input, PAL)	Oscilloscope Signal generator (Color bar)	TP-B [CRT socket PWB]	S05 (CHROMA) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Supply an NTSC color bar input to Video A. 2. Connect oscilloscope to TP-G. 3. Adjust S05 to obtain a straight line waveform. 
Contrast (Video input, PAL)	Oscilloscope Signal generator (Color bar)	TP-G [CRT socket PWB]	S06 (CONTRAST) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Supply an NTSC color bar input to Video A. 2. Set the Color Off switch to off. 3. Connect oscilloscope to TP-G. 4. Adjust the waveform level to 24 V_{p-p} with S06. 5. Set the Color Off switch to Color. 
Phase (Video input, NTSC 4.43)	Oscilloscope Signal generator (Color bar NTSC 4.43)	TP-B [CRT socket PWB]	S07 (PHASE) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Supply an NTSC 4.43 color bar input to Video A. 2. Connect oscilloscope to TP-G. 3. Adjust S07 to obtain a straight line waveform. 

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
Chroma and phase (Y/C input, NTSC)	Oscilloscope Signal generator (Color bar)	TP-B [CRT socket PWB]	S08 (CHROMA) S09 (PHASE) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Supply an NTSC color bar input to Y/C In. 2. Set the menu Filter Select to Notch. 3. Connect oscilloscope to TP-B. 4. Alternately adjust S08 and S09 to obtain a straight line waveform. 5. Set Filter Select to Comb. 
Contrast (Y/C input, NTSC)	Oscilloscope Signal generator (Color bar)	TP-G [CRT socket PWB]	S10 (CONTRAST) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Supply an NTSC color bar input to Video A. 2. Set the Color Off switch to off. 3. Connect oscilloscope to TP-G. 4. Adjust the waveform level to 24 Vp-p with S10. 5. Set the Color Off switch to Color. 
Chroma (Y/C input, PAL)	Oscilloscope Signal generator (Color bar)	TP-B [CRT socket PWB]	S11 (CHROMA) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Supply a PAL color bar input to Video A. 2. Connect oscilloscope to TP-B. 3. Adjust S11 to obtain a straight line waveform. 
Chroma (Component Input, NTSC)	Oscilloscope Signal generator (Color bar)	TP-B [CRT socket PWB]	S12 (CHROMA) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Set the menu RGB/Component to Component. 2. Supply an NTSC color bar input to Component In. 3. Connect oscilloscope to TP-B. 4. Adjust S12 to obtain a straight line waveform. 5. Return the menu RGB/Component to original setting. 

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
Contrast (Component Input, NTSC)	Oscilloscope Signal generator (Color bar)	TP-G [CRT socket PWB]	S13 (CONTRAST) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Set the menu RGB/Component to Component. 2. Supply an NTSC color bar input to Component In. 3. Set the Color Off switch to off. 4. Connect oscilloscope to TP-G. 5. Adjust the waveform level to 32 Vp-p with S13. 6. Set the Color Off switch to Color. 7. Return the menu RGB/Component to original setting. 
Contrast (RGB Input, NTSC)	Oscilloscope Signal generator (Color bar)	TP-G [CRT socket PWB]	S14 (CONTRAST) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Supply an NTSC color bar input to RGB In. 2. Connect oscilloscope to TP-G. 3. Adjust the waveform level to 32 Vp-p with S14. 
Color temperature (8300 K)	Signal generator (Resolution pattern, color bar) Color analyzer or color temperature meter		C11 (CHROMA DATA TO MAX) C16 (SYSTEM DETECT) W01 (R CUTOFF) W02 (G CUTOFF) W03 (B CUTOFF) W04 (R DRIVE) W05 (G DRIVE) W06 (B DRIVE) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Supply a resolution pattern input. 2. Check that the menu Color Temp. is 8300. 3. Set the Color Off switch to off. 4. Set W01 to 32, W03 to 21, W05 to 32, and W02 to 25. 5. Adjust W04 and W06 for the specified color temperature (reference: W04 = 30, W06 = 25) (X = 0.283, Y = 0.297). 6. Supply a color bar input (black and white). 7. Check for proper white balance tracking. If deviated in the dark components, adjust with W01 and W03. <p>• Adjustment with color temperature meter: Apply the sensor to the CRT, adjust and measure. If deviated, repeatedly adjust and measure to obtain the specified color temperature.</p>

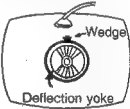
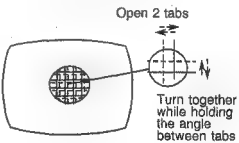
Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
Color temperature (6500 K)	Signal generator (Resolution pattern, color bar) Color analyzer or color temperature meter		W07 (R CUTOFF) W09 (B CUTOFF) W10 (R DRIVE) W11 (G DRIVE) W12 (B DRIVE) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Supply a resolution pattern input. 2. Set the menu Color Temp. to 6500. 3. Set the Color Off switch to off. 4. Set W07 to 37, W09 to 10, and W08 to 25. 5. Set W11 to 32. 6. Adjust W10 and W12 for the specified color temperature (reference: W10 = 33, W12 = 21) (X = 0.313, Y = 0.329) 7. Supply a color bar input (black and white). 8. Check for proper white balance tracking. If deviated in the dark components, adjust with W07 and W09. 9. Return the menu Color Temp. to original setting. <ul style="list-style-type: none"> • Adjustment with color temperature meter: Apply the sensor to the CRT, adjust and measure. If deviated, repeatedly adjust and measure to obtain the specified color temperature.
Bright	Signal generator (Split color bar)		S01 (BRIGHT) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Adjust S01 to where the split color 0 % black component faintly brightens. 2. Supply another signal and confirm absence of black deviation.

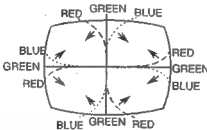
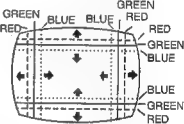
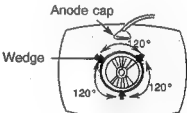
Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
Purity adjustment	Degaussing coil Signal generator(green raster, red raster, blue raster, cross pattern signals)		Purity magnets Convergence magnets	<ol style="list-style-type: none"> 1. Be sure to degauss using the degaussing coil. 2. Carefully remove the wedges. 3. Peel the adhesive from the 6 magnets to allow turning the magnets. 4. Supply an green raster signal input. 5. Loosen the deflection yoke securing screw and slide the yoke fully rearward to produce a red circle display. 6. Overlap the long with short tabs of the 2 purity magnets and position these horizontally. <p>*Set the 2 purity magnets horizontally.</p>  <p>Align horizontally. (Fig.2)</p> 7. Adjust the rotational angle between the tabs to produce a green circle at the center of the screen.  <p>Set the green area at the (Fig.3)</p> 8. Supply a cross pattern input and check for deviation of the vertical center position. If deviated, while maintaining the angle between the tabs, rotate the magnets to center the vertical position to the extent possible.  <p>Set the indentations near the horizontal line (tolerance about ± 5 mm) (Fig.4)</p>



(Fig.1)

Note: Do not disturb Yv, Ybh and Yht controls.

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
				9. Repeat steps 7 and 8. 10. Supply an all green signal input and shift the deflection yoke forward to where the overall screen is a green single color. 11. Also check the red and blue single color rasters. 12. Suitably tighten the deflection yoke securing screw to prevent forward to rearward shifting.
Static (center) convergence adjustment	Signal generator(crosshatch)		Deflection yoke Wedges Convergence magnets	1. Supply a crosshatch pattern input. 2. Move the deflection yoke up, down, left and right to roughly adjust the perimeter convergence. Temporarily secure with one wedge at the top.  (Fig.5) 3. Use the 4 pole magnets to overlap red and blue at the picture center to produce magenta. 4. Use the 6 pole magnets to overlap the green lines with the magenta. 5. If required, repeat steps 1 and 2.  (Fig.6)

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
Dynamic (perimeter) convergence adjustment	Signal generator(crosshatch)		Wedges Deflection yoke	<ol style="list-style-type: none"> 1. Supply a crosshatch pattern input. 2. Remove the wedge temporarily securing the deflection yoke. 3. Wobble the deflection yoke vertically and set the convergence deviation as indicated in Fig.7. Again temporarily secure by inserting a wedge at the top. 4. Wobble the deflection yoke left and right and set the convergence deviation as indicated in Fig.8. 5. Alternately repeat steps 2 and 3 and adjust for minimum convergence deviation.
<p>Front</p>  <p>Arrow directions when yoke is tilted upward (opposite directions when tilted downward)</p> <p>(Fig.7)</p>				<p>Front</p>  <p>Arrow directions when yoke is tilted rightward (opposite directions when tilted leftward)</p> <p>(Fig.8)</p>
After completing convergence adjustment	Double sided tape Adhesive		Wedges Magnet look	<ol style="list-style-type: none"> 1. Insert the wedges as shown in Fig.9.  <p>Securing with 3 wedges</p> <p>(Fig.9)</p> <p>Note: Double sided tape is applied to the wedges. Peel off the covering to secure. Do not reuse old wedges, replace them.</p> <p>Wedge part number: CE40764-00A</p> <ol style="list-style-type: none"> 2. Tighten the deflection yoke securing screw. 3. Apply adhesive to secure the 6 magnets as indicated in Fig.1.



JVC

VICTOR COMPANY OF JAPAN, LIMITED

TELEVISION RECEIVER DIVISION 1106 Hota, Iwai-city, Ibaraki-prefecture, 306-06, Japan




9509 V.P.
H.N K2 M.H

BM-H2000PN STANDARD CIRCUIT DIAGRAM

NOTE ON USING CIRCUIT DIAGRAMS

1. SAFETY

The components identified by the  symbol and shading are critical for safety. For continued safety replace safety critical components only with manufactures recommended parts.

2. SPECIFIED VOLTAGE AND WAVEFORM VALUES

The voltage and waveform values have been measured under the following conditions.

- (1) Input signal : PAL Colour bar signal
(Composite Video / Input A)
- (2) Setting positions of each knob/button and variable resistor : Original setting position when shipped
- (3) Internal resistance of tester : DC 20k Ω /V
- (4) Oscilloscope sweeping time : H \Rightarrow 20 μ S/div
: V \Rightarrow 5mS/div
: Others \Rightarrow Sweeping time is specified
- (5) Voltage values : All DC voltage values

* Since the voltage values of signal circuit vary to some extent according to adjustments, use them as reference values.

3. INDICATION OF PARTS SYMBOL [EXAMPLE]

- In the PW board : R1209 \rightarrow R209

4. INDICATIONS ON THE CIRCUIT DIAGRAM

(1) Resistors

• Resistance value

- No unit : [Ω]
- K : [K Ω]
- M : [M Ω]

• Rated allowable power

- No indication : 1/8[W]
- Others : As specified

• Type

- No indication : Carbon resistor
- OMR : Oxide metal film resistor
- MFR : Metal film resistor
- MPR : Metal plate resistor
- UNFR : Uninflamable resistor
- FR : Fusible resistor

* Composition resistor 1/2 [W] is specified as 1/2S or Comp.

(2) Capacitors

• Capacitance value

- 1 or higher : [pF]
- less than 1 : [μ F]

• Withstand voltage

- No indication : DC50[V]
- Others : DC withstand voltage[V]
- AC indicated : AC withstand voltage[V]

• Electrolytic Capacitors

- 47/50[Example]: Capacitance value[μ F]/withstand voltage[V]




• Type

- No indication : Ceramic capacitor
- MY : Mylar capacitor
- MM : Metallized mylar capacitor
- PP : Polypropylene capacitor
- MPP : Metallized polypropylene capacitor
- MF : Metallized film capacitor
- TF : Thin film capacitor
- BP : Bipolar electrolytic capacitor
- TAN : Tantalum capacitor

(3) Coils



- No unit : [μ H]
- Others : As specified

(4) Power Supply




-  : B1(85V)
-  : B2(12V)
-  : 5V

* Respective voltage values are indicated.





(5) Test Point

-  : Test point
-  : Only test point display



(6) Connecting method

-  : Connector
-  : Wrapping or soldering
-  : Receptacle

(7) Ground symbol

-  : LIVE side ground
-  : ISOLATED(NEUTRAL) side ground
-  : EARTH ground
-  : DIGITAL ground

5. NOTE FOR REPAIRING SERVICE

This model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : () side GND and the ISOLATED(NEUTRAL) : () side GND. Therefore, care must be taken for the following points.




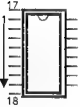





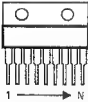

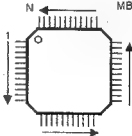


- (1) Do not touch the LIVE side GND or the LIVE side GND and the ISOLATED(NEUTRAL) side GND simultaneously. If the above caution is not respected, an electric shock may be caused. Therefore, make sure that the power cord is surely removed from the receptacle when, for example, the chassis is pulled out.
 - (2) Do not short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or never measure with a measuring apparatus (oscilloscope, etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND at the same time. If the above precaution is not respected, a fuse or any parts will be broken.
- ◇ Since the circuit diagram is a standard one, the circuit and circuit constants may be subject to change for improvement without any notice.

CONTENTS




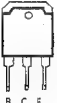
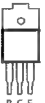
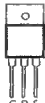
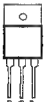



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5. SIGNAL PWB (FX-1072A)	
6. DEFLECTION PWB (FX-2033A)	
7. CRT SOCKET PWB (FX-3037A)	

■ SEMICONDUCTOR SHAPES



● IC

 <p>TC4053BP TC4066BP HD74LS04P TC4538BP HD74LS05P HD74LS00P AN5640</p>	 <p>LA7016</p>	 <p>AN7808 AN7812F TA79012S AN7805F</p> <p>IN E OUT</p>
 <p>HA11423</p>	 <p>NJM4560D μPC358 ST24BM-1400</p>	 <p>μPC1498H</p>
 <p>FA5301P</p>	 <p>TDA4680 TDA4670 AN5625N</p>	 <p>μPC358HA</p>
 <p>AN5265</p>	 <p>MB90077PF-109</p>	<p>(Flat package IC)</p>  <p>MB89847PF-125 CXD2018Q</p>
<p>(Flat package IC)</p>  <p>HD74HC32FP HD74HC158FP</p>	<p>(Flat package IC)</p>  <p>μPC4558G-W</p>	

● TRANSISTOR

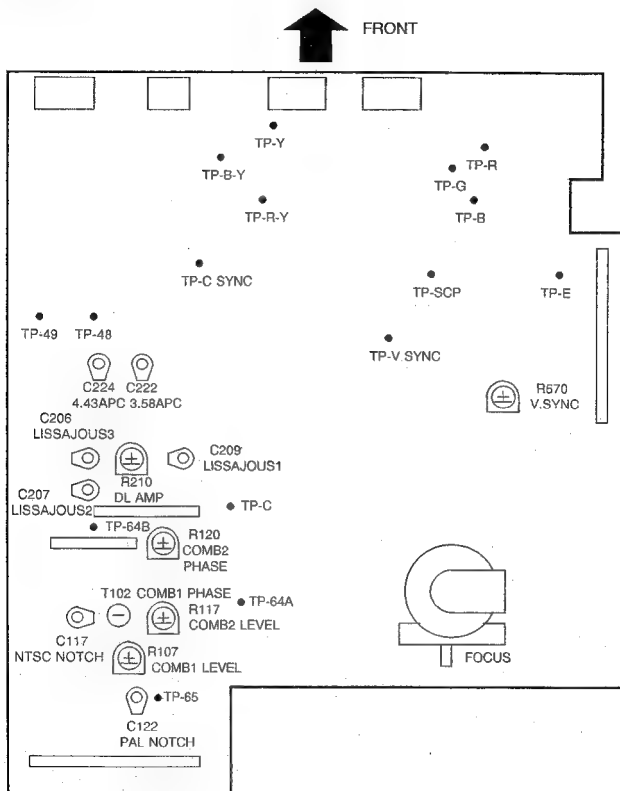
 <p>[Bottom View]</p> <p>2SC1740S(R) 2SC3311A(O)-T</p>	 <p>[Bottom View]</p> <p>2SC3334 2SA1321 2SC1472K 2SA1370(E) 2SA562TM 2SC3187-T 2SC1959(Y) 2SA1309 2SC1815(YG)-T</p>	 <p>2SC4632</p>
 <p>2SC4589-C1</p>	 <p>2SD1408 2SD1409</p>	 <p>2SK1118</p>
 <p>2SC4544</p>	 <p>2SC4502</p>	<p>(CHIP TRANSISTOR)</p>  <p>2SC2712(YG) 2SA1182(YG)</p>
<p>(CHIP FET)</p>  <p>2SK374(O)</p>		

● DIODE

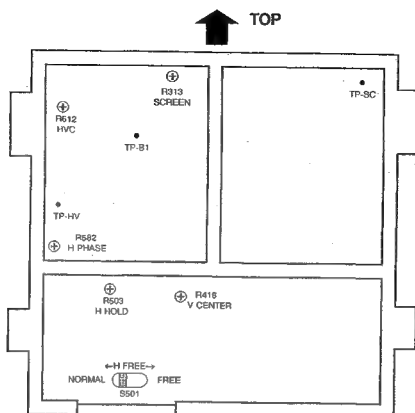
<p>(CHIP DIODE)</p>  <p>MA3056(L)-W MA3150(M)-W MA151K-W</p>	<p>(CHIP DIODE)</p>  <p>MA8054-W MA8130-W</p>	
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■ ALIGNMENT LOCATION

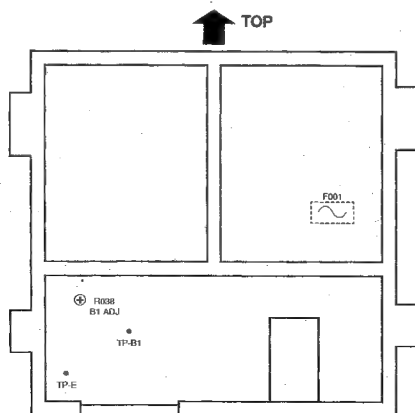
● SIGNAL PWB (PARTS SIDE)



• DEFLECTION PWB (PATTERN SIDE)

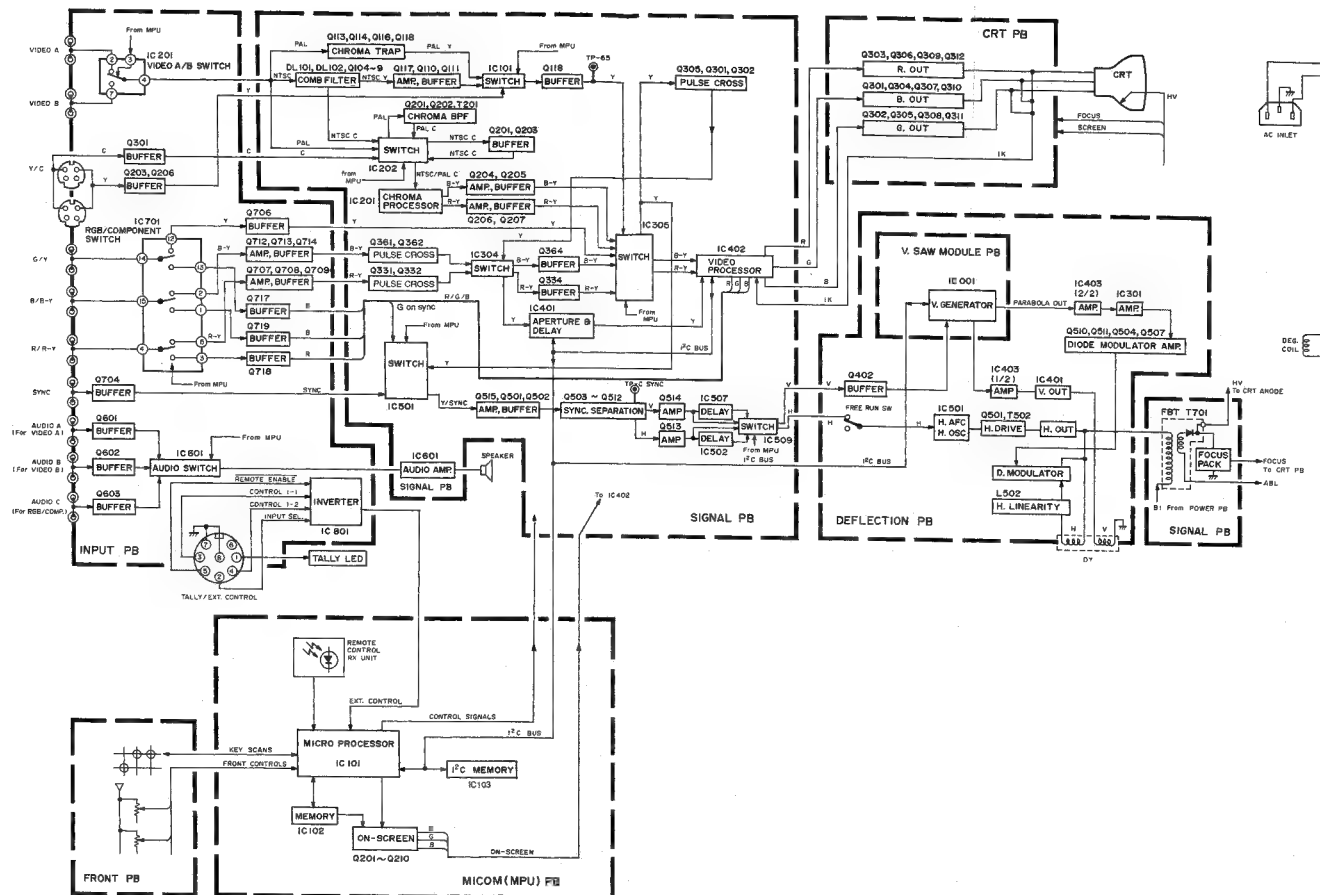


• POWER PWB (PATTERN SIDE)



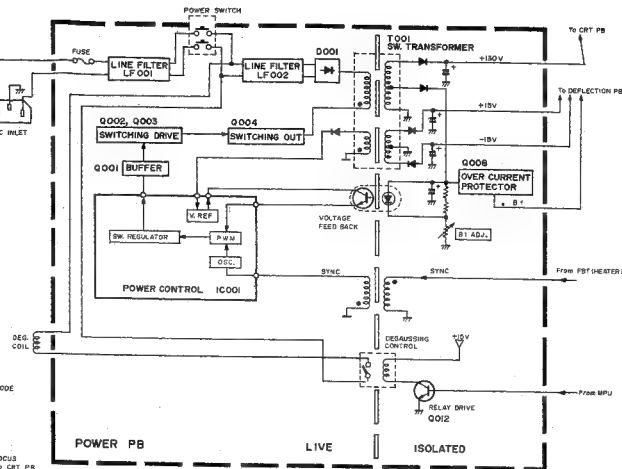
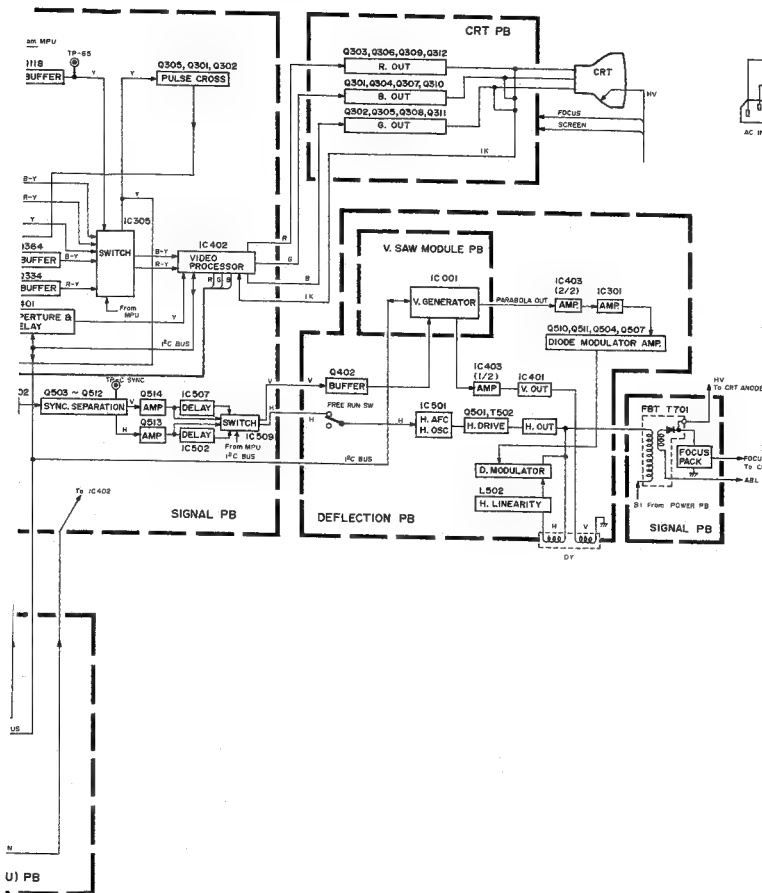
BLOCK DIAGRAM

BM-H2000PN BM-H2000PN



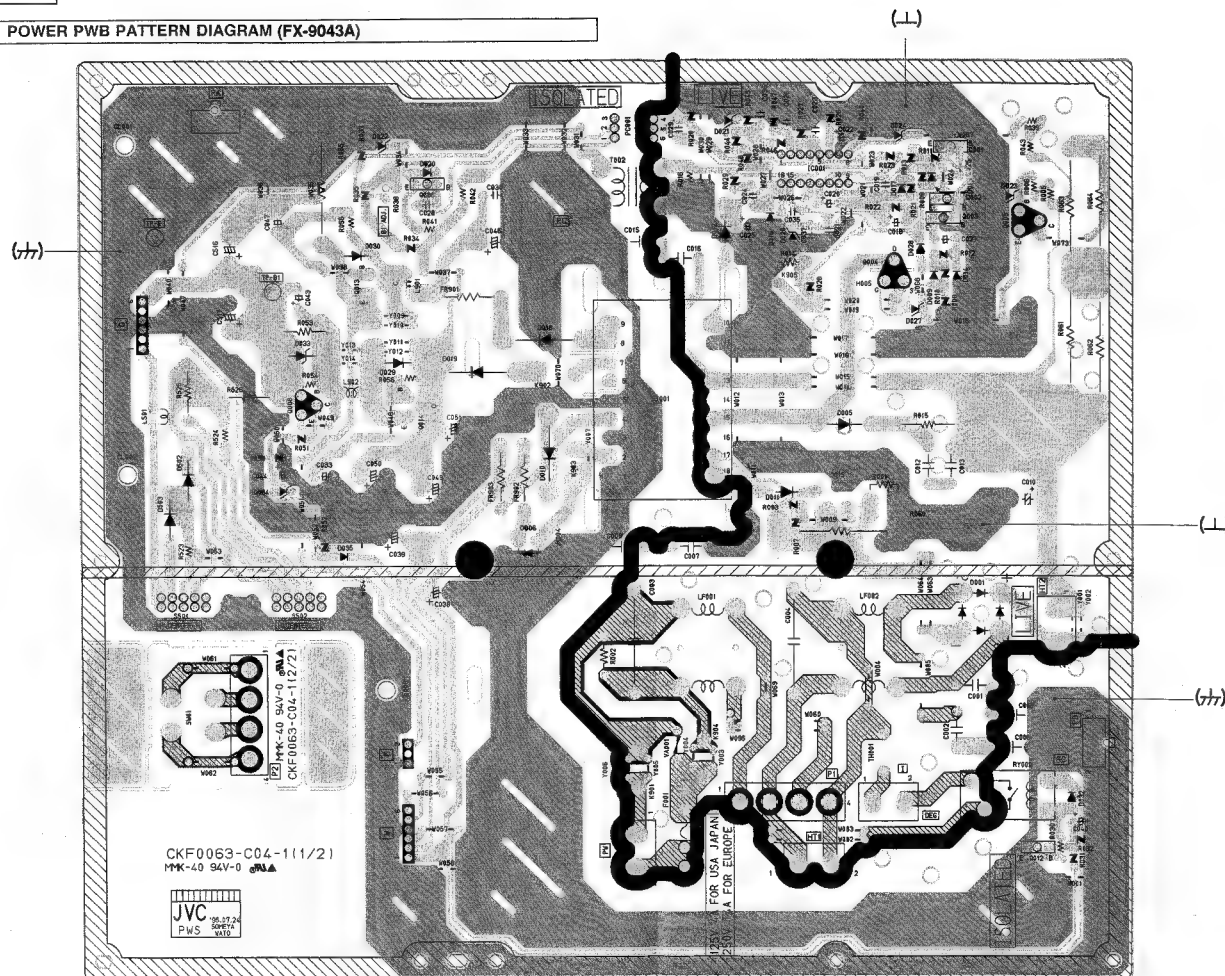
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8 (No.51042)

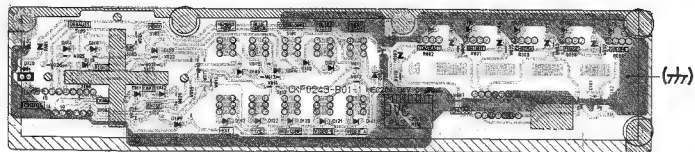
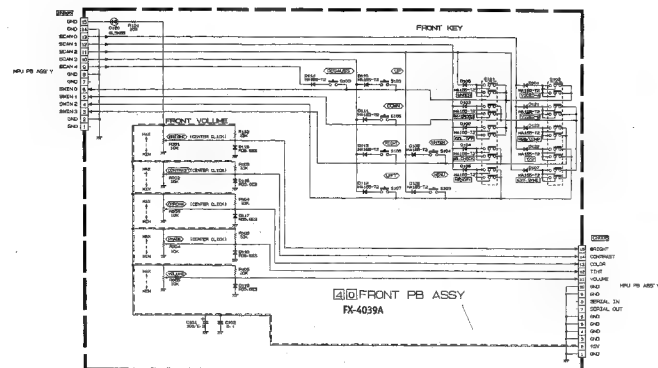
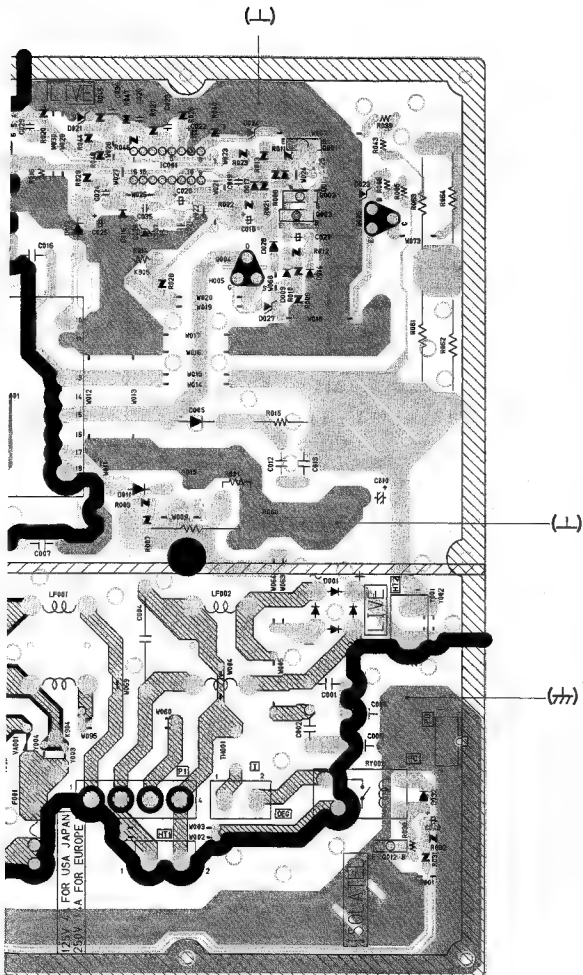


POWER PWB PATTERN DIAGRAM (FX-9043A)

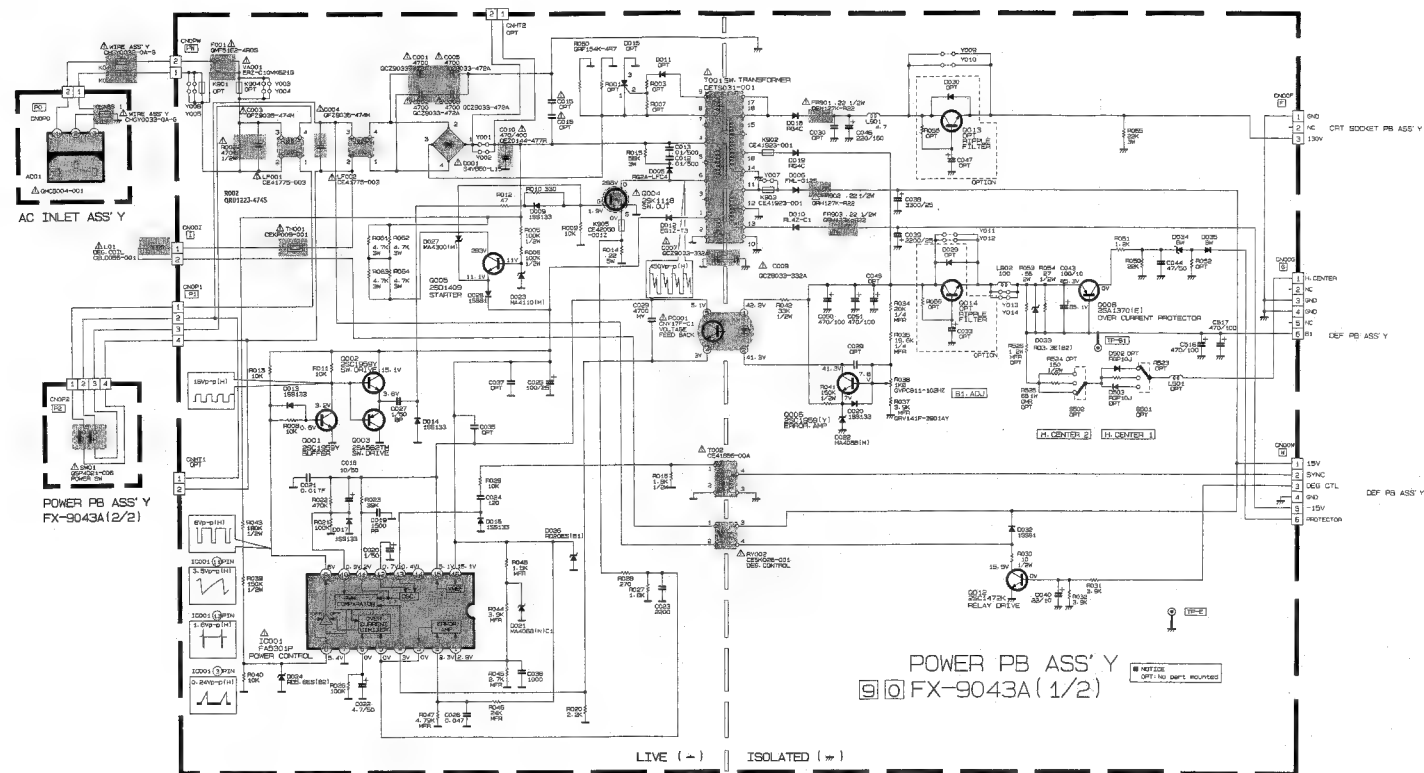
FRONT



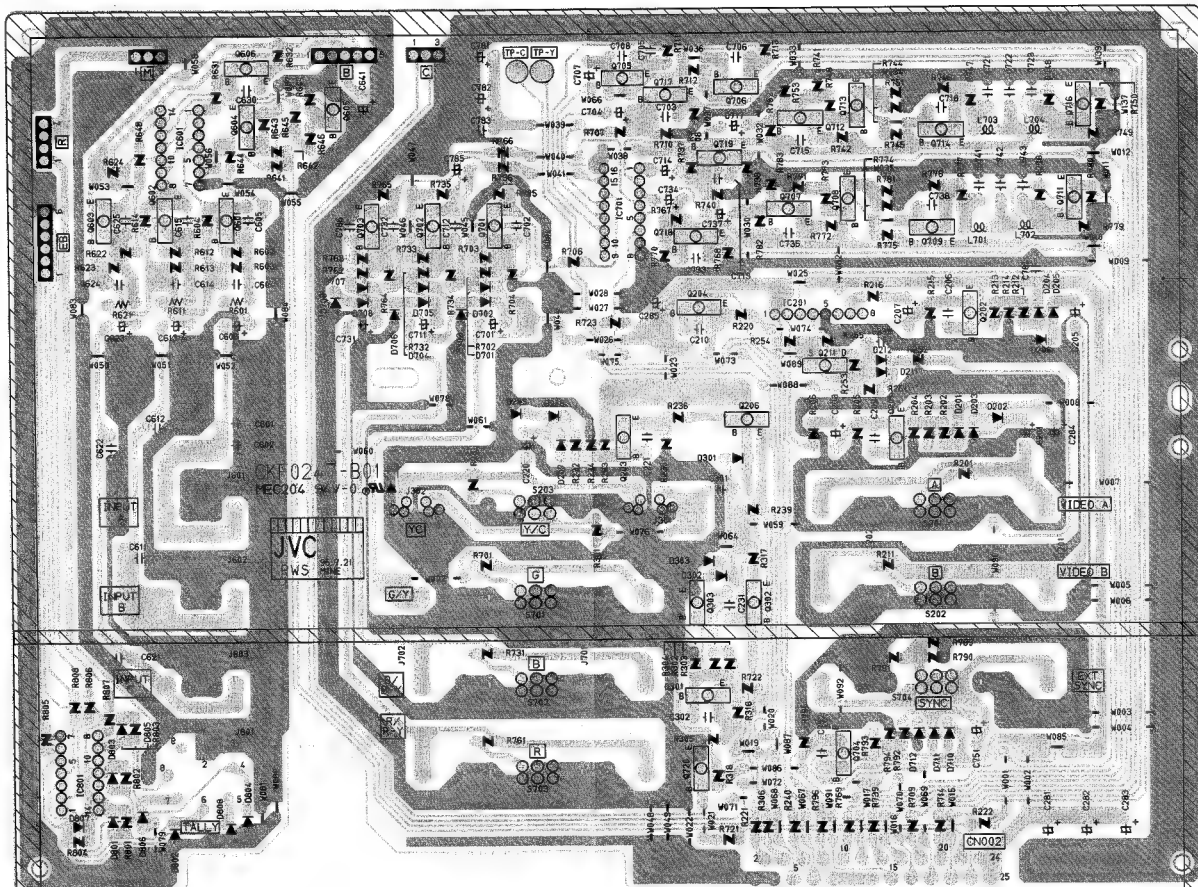
FRONT CONTROL PWB CIRCUIT DIAGRAM / PATTERN DIAGRAM (FX-4039A)



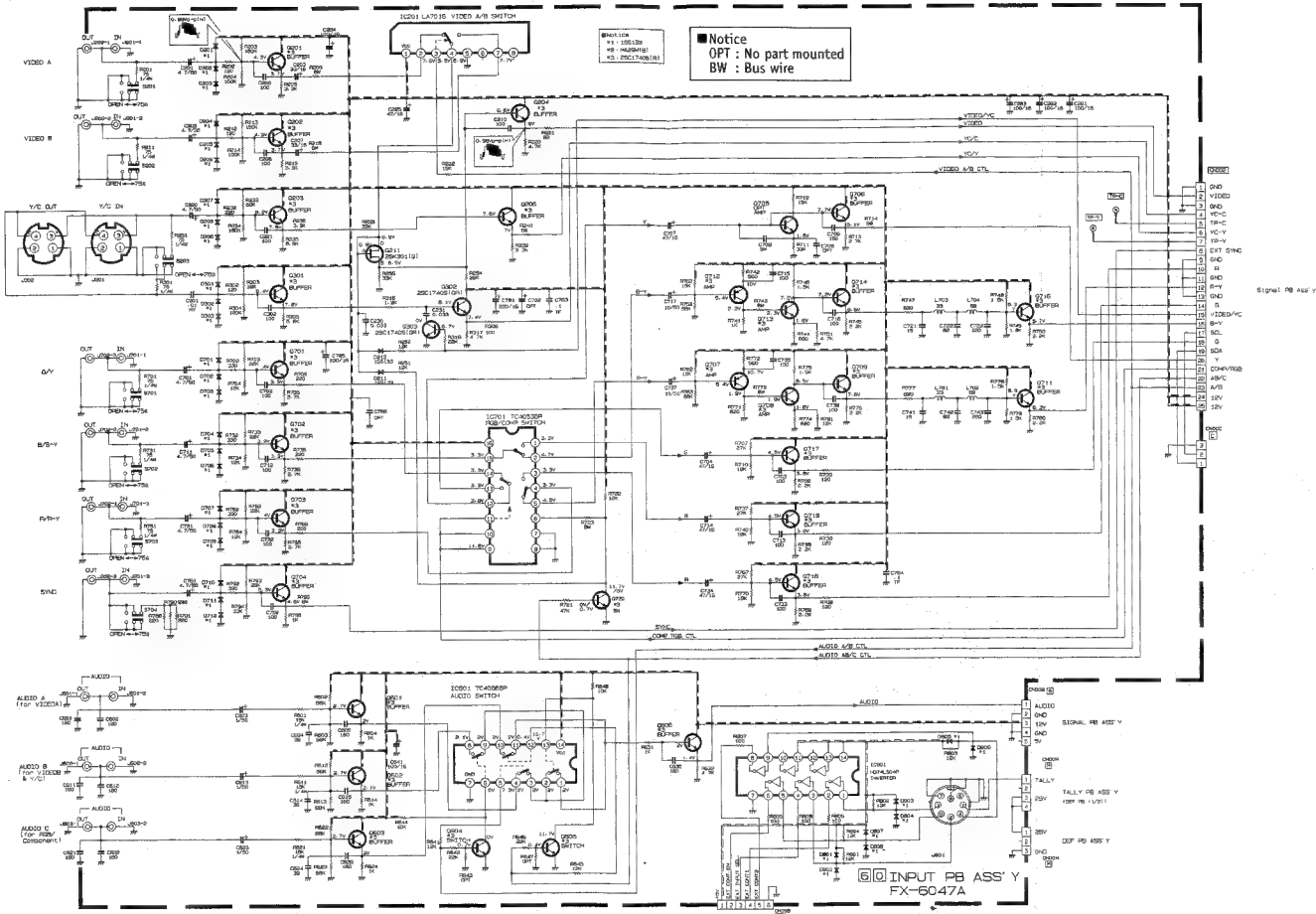
POWER PWB CIRCUIT DIAGRAM



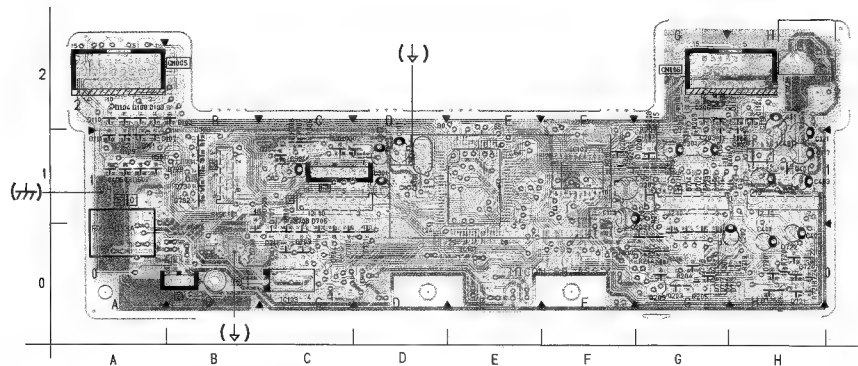
INPUT PWB PATTERN DIAGRAM (FX-6047A)



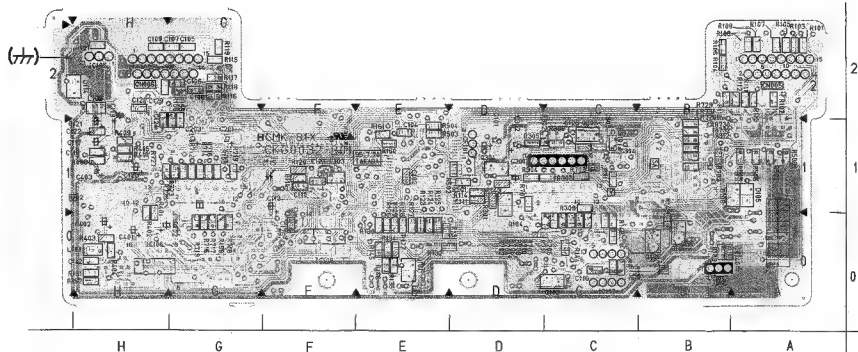
INPUT PWB CIRCUIT DIAGRAM



MCOM (MPU) PWB PATTERN DIAGRAM (FX-5013A)



[SIDE A]

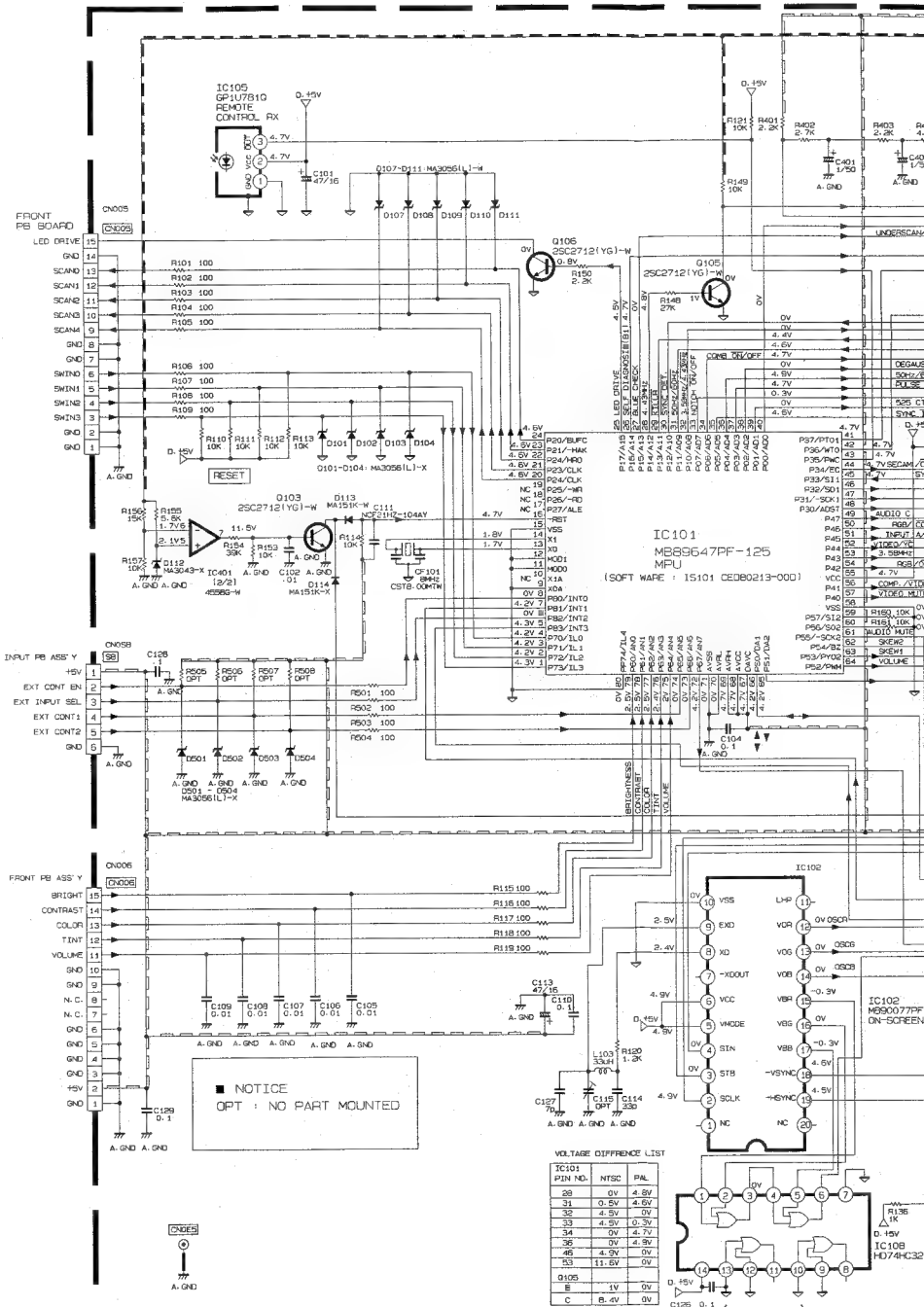


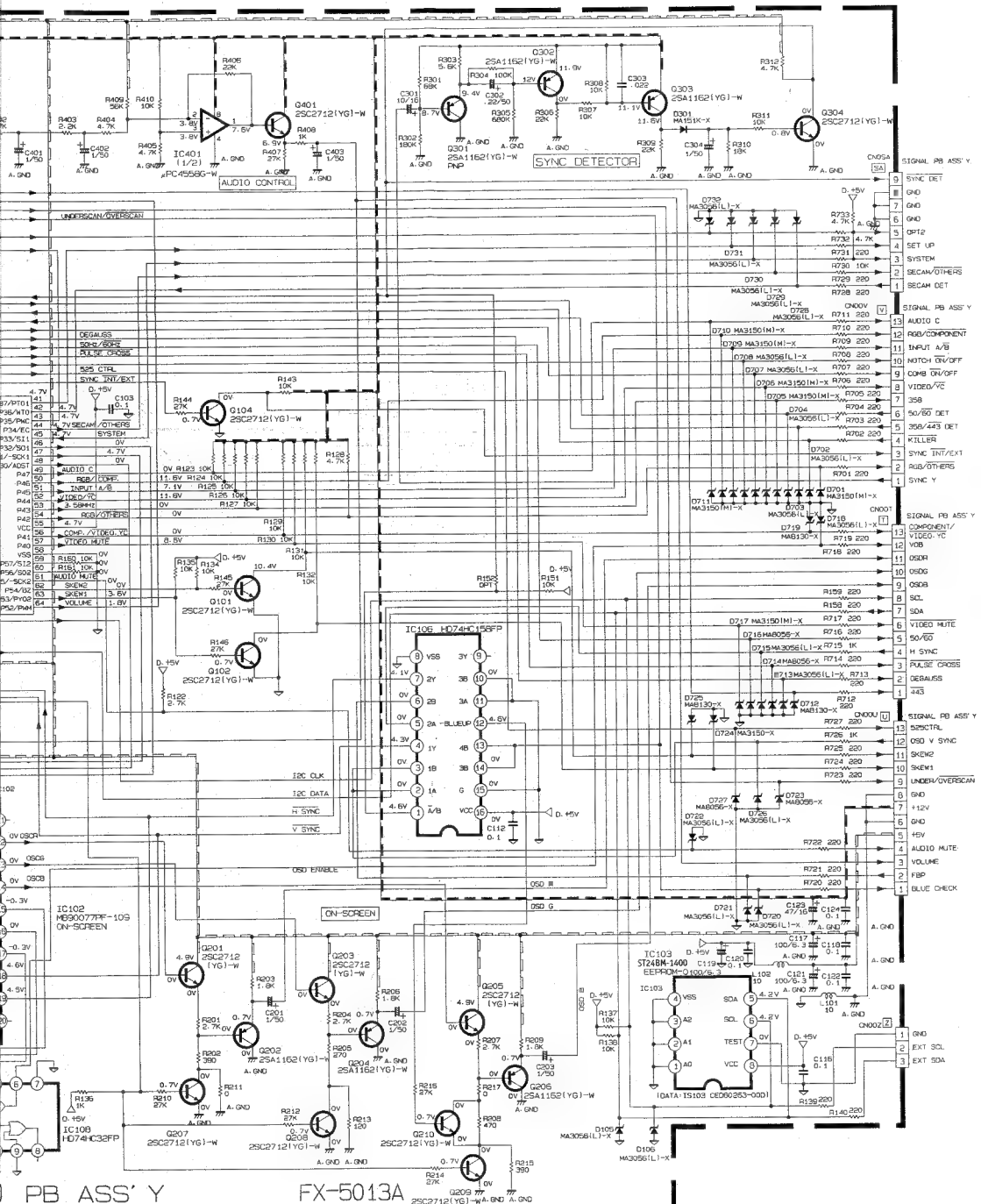
[SIDE B]

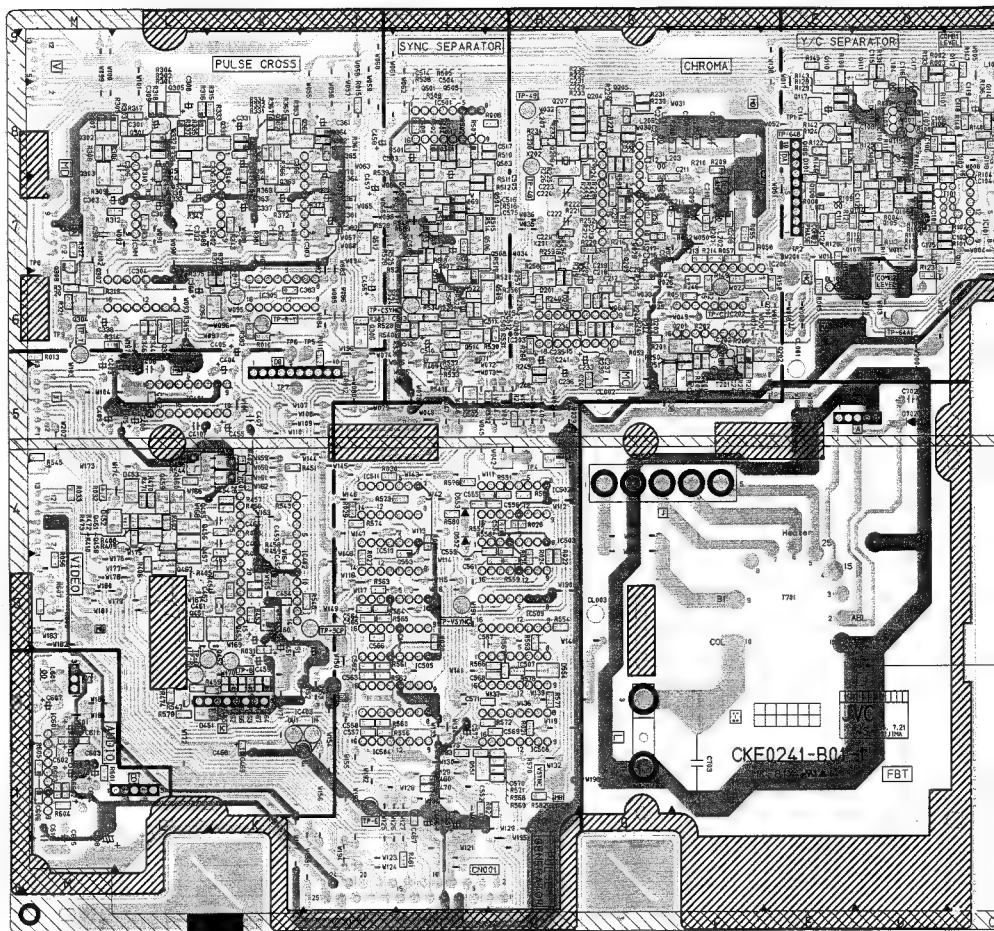
■ ADDRESS TABLE

SYMBOL No.	ADDRESS	SIDE	SYMBOL No.	ADDRESS	SIDE	SYMBOL No.	ADDRESS	SIDE	SYMBOL No.	ADDRESS	SIDE
C102	H1	A	D724	H0	A	R127	E0	B	R405	H1	B
C103	E1	B	D725	G1	A	R128	E0	B	R406	G1	A
C104	E1	B	D726	H0	A	R129	E0	B	R407	H2	A
C105	G2	B	D727	H1	A	R130	E0	B	R408	H1	B
C106	G2	B	D728	B1	A	R131	E0	B	R409	H1	B
C107	G2	B	D729	B1	A	R132	E0	B	R410	H1	B
C108	G2	B	D730	B1	A	R133	E0	B	R501	D1	B
C109	H2	B	D731	B1	A	R135	E0	B	R502	D1	B
C110	F1	B	D732	B1	A	R136	G0	A	R503	E1	B
C111	D1	B	IC101	E1	A	R137	C0	B	R504	E1	B
C112	H0	B	IC102	F1	A	R138	C0	B	R506	A1	B
C114	F1	B	IC106	H0	B	R139	B0	B	R506	A1	B
C115	C0	B	IC108	F0	B	R140	B0	B	R507	A1	B
C118	H1	B	IC401	H1	A	R143	D1	B	R508	A1	B
C120	H2	B	L101	H0	B	R144	C0	B	R701	D1	B
C122	H1	B	L102	H2	B	R145	E0	B	R702	C0	B
C124	H1	B	L103	F1	B	R146	E0	B	R703	C1	B
C126	F0	B	Q101	E0	B	R148	C0	B	R704	C0	B
C127	F1	B	Q102	C0	B	R149	B0	B	R705	C0	B
C128	C1	B	Q103	G2	A	R150	B1	A	R706	C0	B
C129	H2	B	Q104	D1	B	R151	H0	B	R707	C0	B
C303	C1	B	Q105	B0	B	R152	H0	B	R708	C0	B
D101	A1	A	Q106	B0	B	R153	H1	A	R709	C1	B
D102	B2	A	Q201	G1	A	R154	G1	A	R710	C0	B
D103	A2	A	Q202	G1	A	R155	G1	B	R711	C0	B
D104	A2	A	Q203	G0	A	R156	G1	B	R712	G1	B
D105	A1	B	Q204	G0	A	R157	G1	A	R713	G0	B
D106	A1	B	Q205	F1	A	R158	G1	B	R714	G1	B
D107	A1	A	Q206	G2	A	R159	G0	B	R715	G0	B
D108	A2	A	Q207	G0	A	R160	E1	B	R716	G1	B
D109	A1	A	Q208	G0	A	R161	E1	B	R717	G0	B
D110	A2	A	Q209	G0	A	R201	G1	A	R718	G0	B
D111	A1	A	Q210	F1	A	R202	G0	A	R719	G1	B
D112	H2	A	Q301	D1	B	R203	F1	A	R720	H0	A
D113	H2	A	Q302	D1	A	R204	G0	A	R721	H0	A
D114	H2	B	Q303	C1	B	R205	G0	A	R722	H0	A
D301	C1	A	Q304	C1	A	R206	H0	A	R723	G1	B
D501	A1	A	Q401	H1	A	R207	G1	A	R724	H0	A
D502	A1	A	R101	A2	B	R208	G1	A	R725	G1	B
D503	A1	A	R102	A2	B	R209	G1	A	R726	H0	A
D504	A1	A	R103	A2	B	R210	G0	A	R727	H1	B
D701	H0	A	R104	B2	B	R211	G0	A	R728	B1	B
D702	G0	A	R105	A2	B	R212	G0	A	R729	B1	B
D703	B0	A	R106	B2	B	R213	H0	A	R730	B1	B
D704	C0	A	R107	A2	B	R214	G0	A	R731	B1	B
D705	B1	A	R108	A2	B	R215	G1	A	R732	B1	B
D706	C0	A	R109	A2	B	R216	F1	A	R733	B1	B
D707	C0	A	R110	B2	B	R217	G1	A			
D708	C0	A	R111	A2	B	R301	D1	B			
D709	C0	A	R112	A2	B	R302	C1	B			
D710	C0	A	R113	A2	B	R303	C1	B			
D711	C0	A	R114	D1	B	R304	D1	B			
D712	G1	A	R115	G2	B	R305	D1	B			
D713	G0	A	R116	G2	B	R306	C1	A			
D714	G1	A	R117	G2	B	R307	C1	A			
D715	G0	A	R118	G2	B	R308	C1	A			
D716	G1	A	R119	G2	B	R309	C1	B			
D717	G0	A	R120	F1	B	R310	C1	B			
D718	G0	A	R121	H2	B	R311	C1	B			
D719	G1	A	R122	E0	B	R312	B1	B			
D720	H0	A	R123	E0	B	R401	H0	B			
D721	H0	A	R124	E0	B	R402	H0	B			
D722	H0	A	R125	E0	B	R403	H0	B			
D723	G1	A	R126	E0	B	R404	H0	B			

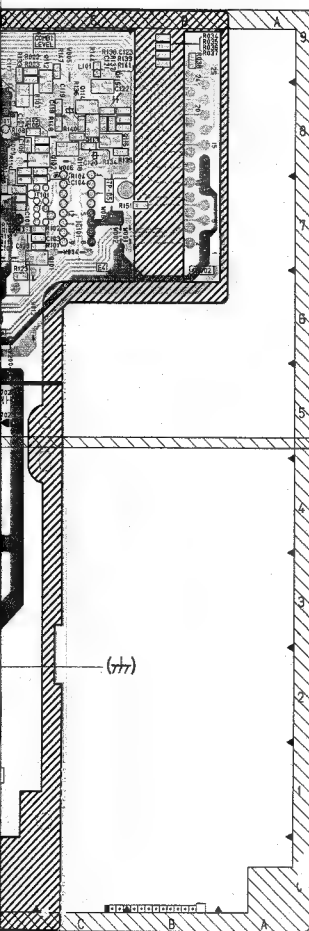
※ This table shows only chip components







M | L | K | J | I | H | G | F | E | D | C

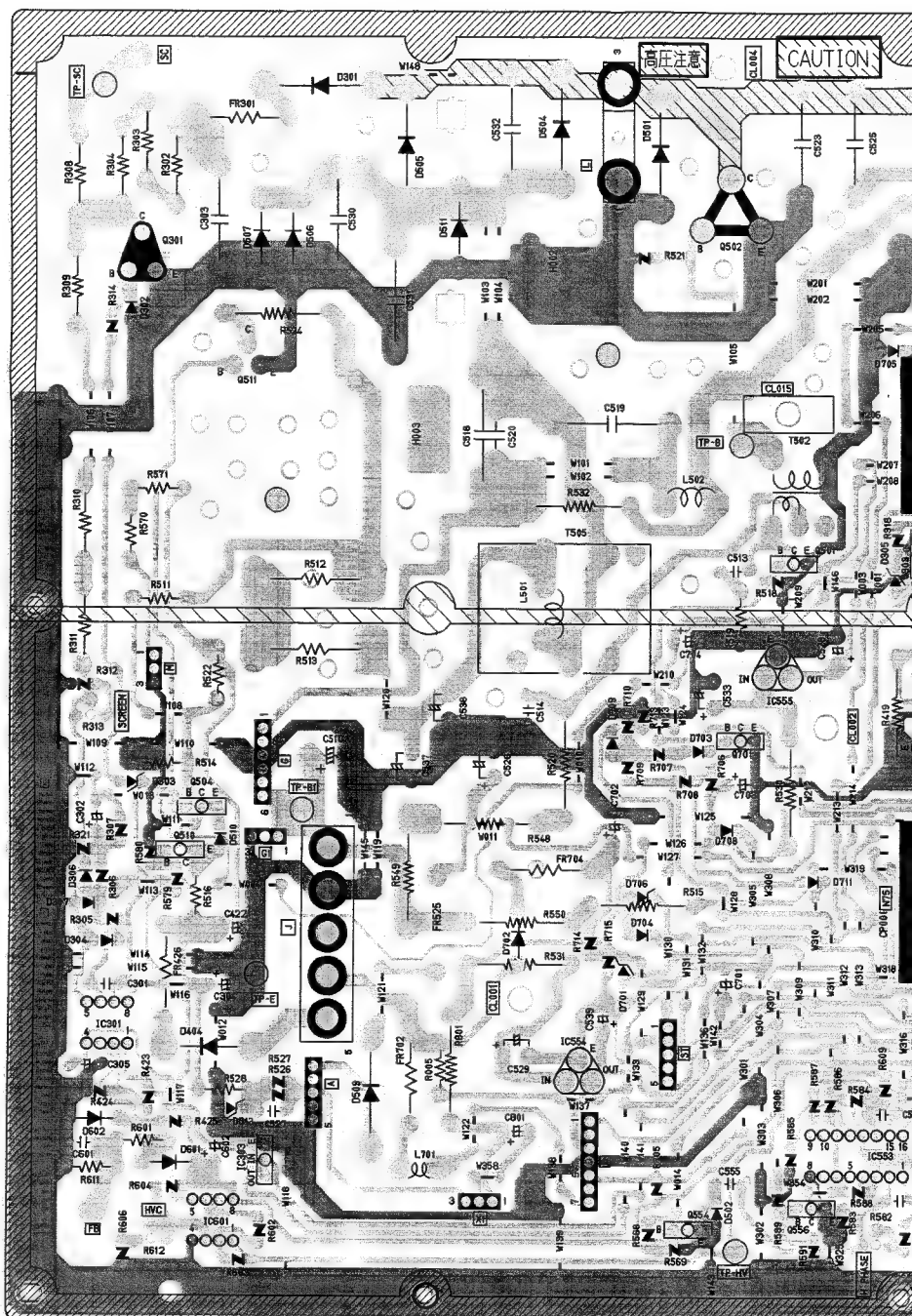


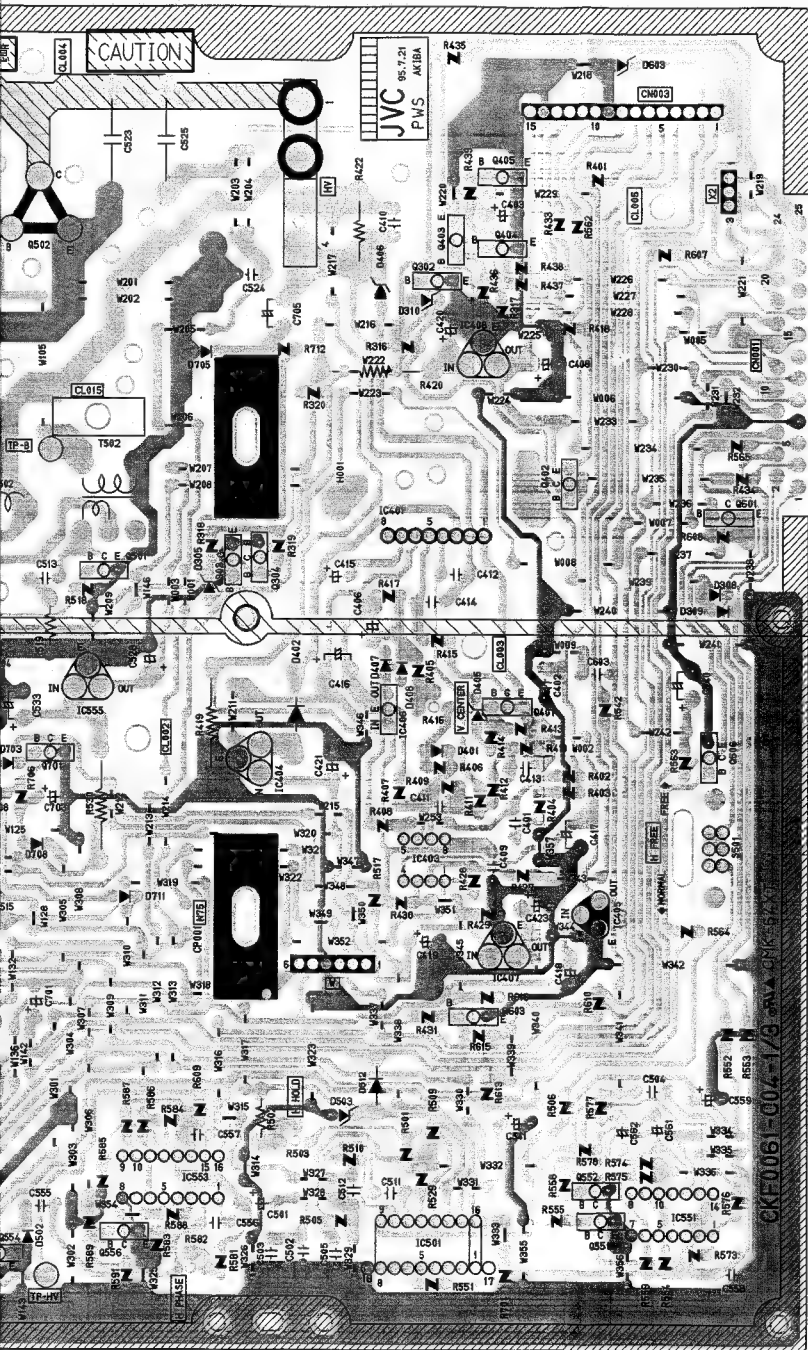
■ ADDRESS TABLE

SIGNAL No.	ADDRESS	SIZE	SIGNAL No.	ADDRESS	SIZE	SIGNAL No.	ADDRESS	SIZE	SIGNAL No.	ADDRESS	SIZE	SIGNAL No.	ADDRESS	SIZE	SIGNAL No.	ADDRESS	SIZE
C182	D7	8	C589	H2	8	G567	L6	8	R140	C8	8	R213	L7	8	R287	L8	8
C183	D7	8	C570	H1	8	G566	L7	8	R141	C8	8	R214	M6	8	R288	L7	8
C184	C8	8	C571	L2	8	G569	M2	8	R142	C8	8	R215	K1	8	R289	L8	8
C185	C8	8	C575	L7	8	G510	L6	8	R143	E8	8	R216	L3	8	R290	L9	8
C186	M6	8	C882	M2	8	G511	L8	8	R144	C9	8	R217	L8	8	R291	L8	8
C187	C8	8	C883	M1	8	G512	L7	8	R145	E8	8	R218	L3	8	R292	L7	8
C188	M6	8	C811	M8	8	G513	L8	8	R146	E8	8	R219	M6	8	R293	L8	8
C189	M8	8	C181	L3	8	G514	L6	8	R147	C9	8	R220	M6	8	R294	L7	8
C190	D7	8	C182	L2	8	G515	L8	8	R148	E8	8	R221	M6	8	R295	L8	8
C191	D7	8	C202	M6	8	G551	L1	8	R149	F6	8	R222	M7	8	R296	L7	8
C192	D7	8	G203	G8	8	R862	L1	8	R150	E8	8	R223	K3	8	R297	L7	8
C193	D7	8	G451	L2	8	R863	M8	8	R151	G7	8	R224	K3	8	R298	L7	8
C194	M8	8	G452	M4	8	R864	D7	8	R225	M8	8	R225	K3	8	R299	L8	8
C196	M8	8	G453	L4	8	R865	E8	8	R226	F6	8	R226	K3	8	R300	L8	8
C198	C8	8	G454	K4	8	R866	E8	8	R227	F6	8	R227	K3	8	R301	L8	8
C199	C8	8	G455	K5	8	R867	M8	8	R228	F6	8	R228	K3	8	R302	L8	8
C200	M8	8	G456	L5	8	R868	K8	8	R229	F6	8	R229	K3	8	R303	L8	8
C201	E7	8	G541	L7	8	R869	J8	8	R230	F6	8	R230	K3	8	R304	L8	8
C202	F8	8	G542	H2	8	R870	M8	8	R231	G7	8	R231	K3	8	R305	L8	8
C203	F7	8	G101	D7	8	R871	J8	8	R232	F6	8	R232	K3	8	R306	L8	8
C204	M8	8	G102	M8	8	R872	M2	8	R233	F6	8	R233	K3	8	R307	L8	8
C205	F8	8	G103	D7	8	R873	M2	8	R234	F6	8	R234	K3	8	R308	L8	8
C206	F8	8	G104	D7	8	R874	M2	8	R235	F6	8	R235	K3	8	R309	L8	8
C207	F7	8	G105	D7	8	R875	M2	8	R236	F6	8	R236	K3	8	R310	L8	8
C208	F7	8	G106	D7	8	R876	M2	8	R237	F6	8	R237	K3	8	R311	L8	8
C209	F7	8	G107	D7	8	R877	M2	8	R238	F6	8	R238	K3	8	R312	L8	8
C210	F7	8	G108	D7	8	R878	M2	8	R239	F6	8	R239	K3	8	R313	L8	8
C211	F8	8	G109	E7	8	R879	M2	8	R240	F6	8	R240	K3	8	R314	L8	8
C212	G8	8	G110	E8	8	R880	M2	8	R241	F6	8	R241	K3	8	R315	L8	8
C213	G7	8	G111	E9	8	R881	M2	8	R242	F6	8	R242	K3	8	R316	L8	8
C214	G6	8	G112	E9	8	R882	M2	8	R243	F6	8	R243	K3	8	R317	L8	8
C215	G6	8	G113	E9	8	R883	M2	8	R244	F6	8	R244	K3	8	R318	L8	8
C216	G6	8	G114	E9	8	R884	M2	8	R245	F6	8	R245	K3	8	R319	L8	8
C217	G6	8	G115	E9	8	R885	M2	8	R246	F6	8	R246	K3	8	R320	L8	8
C218	G6	8	G116	E9	8	R886	M2	8	R247	F6	8	R247	K3	8	R321	L8	8
C219	G6	8	G117	E9	8	R887	M2	8	R248	F6	8	R248	K3	8	R322	L8	8
C220	G6	8	G118	E9	8	R888	M2	8	R249	F6	8	R249	K3	8	R323	L8	8
C221	G6	8	G119	E9	8	R889	M2	8	R250	F6	8	R250	K3	8	R324	L8	8
C222	G6	8	G120	E9	8	R890	M2	8	R251	F6	8	R251	K3	8	R325	L8	8
C223	G6	8	G121	E9	8	R891	M2	8	R252	F6	8	R252	K3	8	R326	L8	8
C224	G6	8	G122	E9	8	R892	M2	8	R253	F6	8	R253	K3	8	R327	L8	8
C225	G6	8	G123	E9	8	R893	M2	8	R254	F6	8	R254	K3	8	R328	L8	8
C226	G6	8	G124	E9	8	R894	M2	8	R255	F6	8	R255	K3	8	R329	L8	8
C227	G6	8	G125	E9	8	R895	M2	8	R256	F6	8	R256	K3	8	R330	L8	8
C228	G6	8	G126	E9	8	R896	M2	8	R257	F6	8	R257	K3	8	R331	L8	8
C229	G6	8	G127	E9	8	R897	M2	8	R258	F6	8	R258	K3	8	R332	L8	8
C230	G6	8	G128	E9	8	R898	M2	8	R259	F6	8	R259	K3	8	R333	L8	8
C231	G6	8	G129	E9	8	R899	M2	8	R260	F6	8	R260	K3	8	R334	L8	8
C232	G6	8	G130	E9	8	R900	M2	8	R261	F6	8	R261	K3	8	R335	L8	8
C233	G6	8	G131	E9	8	R901	M2	8	R262	F6	8	R262	K3	8	R336	L8	8
C234	G6	8	G132	E9	8	R902	M2	8	R263	F6	8	R263	K3	8	R337	L8	8
C235	G6	8	G133	E9	8	R903	M2	8	R264	F6	8	R264	K3	8	R338	L8	8
C236	G6	8	G134	E9	8	R904	M2	8	R265	F6	8	R265	K3	8	R339	L8	8
C237	G6	8	G135	E9	8	R905	M2	8	R266	F6	8	R266	K3	8	R340	L8	8
C238	G6	8	G136	E9	8	R906	M2	8	R267	F6	8	R267	K3	8	R341	L8	8
C239	G6	8	G137	E9	8	R907	M2	8	R268	F6	8	R268	K3	8	R342	L8	8
C240	G6	8	G138	E9	8	R908	M2	8	R269	F6	8	R269	K3	8	R343	L8	8
C241	G6	8	G139	E9	8	R909	M2	8	R270	F6	8	R270	K3	8	R344	L8	8
C242	G6	8	G140	E9	8	R910	M2	8	R271	F6	8	R271	K3	8	R345	L8	8
C243	G6	8	G141	E9	8	R911	M2	8	R272	F6	8	R272	K3	8	R346	L8	8
C244	G6	8	G142	E9	8	R912	M2	8	R273	F6	8	R273	K3	8	R347	L8	8
C245	G6	8	G143	E9	8	R913	M2	8	R274	F6	8	R274	K3	8	R348	L8	8
C246	G6	8	G144	E9	8	R914	M2	8	R275	F6	8	R275	K3	8	R349	L8	8
C247	G6	8	G145	E9	8	R915	M2	8	R276	F6	8	R276	K3	8	R350	L8	8
C248	G6	8	G146	E9	8	R916	M2	8	R277	F6	8	R277	K3	8	R351	L8	8
C249	G6	8	G147	E9	8	R917	M2	8	R278	F6	8	R278	K3	8	R352	L8	8
C250	G6	8	G148	E9	8	R918	M2	8	R279	F6	8	R279	K3	8	R353	L8	8
C251	G6	8	G149	E9	8	R919	M2	8	R280	F6	8	R280	K3	8	R354	L8	8
C252	G6	8	G150	E9	8	R920	M2	8	R281	F6	8	R281	K3	8	R355	L8	8
C253	G6	8	G151	E9	8	R921	M2	8	R282	F6	8	R282	K3	8	R356	L8	8
C254	G6	8	G152	E9	8	R922	M2	8	R283	F6	8	R283	K3	8	R357	L8	8
C255	G6	8	G153	E9	8	R923	M2	8	R284	F6	8	R284	K3	8	R358	L8	8
C256	G6	8	G154	E9	8	R924	M2	8	R285	F6	8	R285	K3	8	R359	L8	8
C257	G6	8	G155	E9	8	R925	M2	8	R286	F6	8	R286	K3	8	R360	L8	8
C258	G6	8	G156	E9	8	R926	M2	8	R287	F6	8	R287	K3	8	R361	L8	8
C259	G6	8	G157	E9	8	R927	M2	8	R288	F6	8	R288	K3	8	R362	L8	8
C260	G6	8	G158	E9	8	R928	M2	8	R289	F6	8	R289	K3	8	R363	L8	8
C261	G6	8	G159	E9	8	R929	M2	8	R290	F6	8	R290	K3	8	R364	L8	8
C262	G6	8	G160	E9	8	R930	M2	8	R291	F6	8	R291	K3	8	R365	L8	8
C263	G6	8	G161	E9	8	R931	M2	8	R292	F6	8	R292	K3	8	R366	L8	8
C264	G6	8	G162	E9	8	R932	M2	8	R293	F6	8	R293	K3	8	R367	L8	8
C265	G6	8	G163	E9	8	R933	M2	8	R294	F6	8	R294	K3	8	R368	L8	8
C266	G6	8	G164	E9	8	R934	M2	8	R295	F6	8	R295	K3	8	R369	L8	8
C267	G6	8	G165	E9	8	R935	M2	8	R296	F6	8	R296	K3	8	R370	L8	8
C268	G6	8	G166	E9	8	R936	M2	8	R297	F6	8	R297	K3	8	R371	L8	8
C269	G6	8	G167	E9	8	R937	M2	8	R298	F6	8	R298	K3	8	R372	L8	8
C270	G6	8	G168	E9	8	R938	M2	8	R299	F6	8	R299	K3	8	R373	L8	8
C271	G6	8	G169	E9	8	R939	M2	8	R300	F6	8	R300	K3	8	R374	L8	8
C272	G6	8	G170	E9	8	R940	M2	8	R301	F6	8	R301	K3	8	R375	L8	8
C273	G6	8	G171	E9	8	R941	M2	8	R302	F6	8	R302	K3	8	R376	L8	8
C274	G6	8	G172	E9	8	R942	M2	8	R303	F6	8	R303	K3	8	R377	L8	8
C275	G6	8	G173	E9	8	R943	M2	8	R304	F6	8	R304	K3	8	R378	L8	8
C276	G6	8	G174	E9	8	R944	M2	8	R305	F6	8	R305	K3	8	R379	L8	8
C277	G6	8	G175	E9	8	R945	M2	8	R306	F6	8	R306	K3	8	R380	L8	8
C278	G6	8	G176	E9	8	R946	M2	8	R307	F6	8	R307	K3	8	R381	L8	8
C279	G6	8	G177	E9	8	R947	M2	8	R308	F6	8	R308	K3	8	R382	L8	8
C280	G6	8	G178	E9	8	R948	M2	8	R309	F6	8	R309					

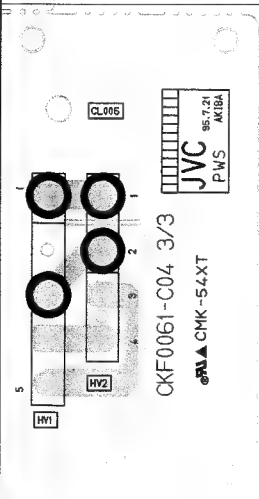
SIGNAL PWB CIRCUIT DIAGRAM



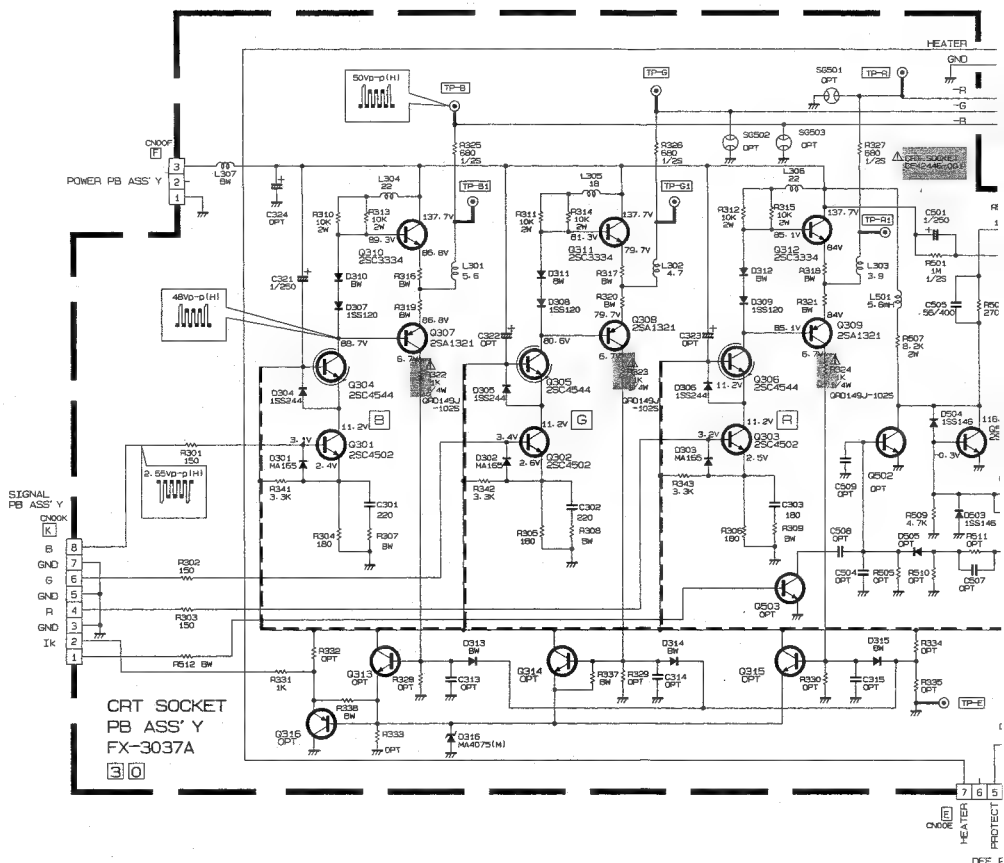


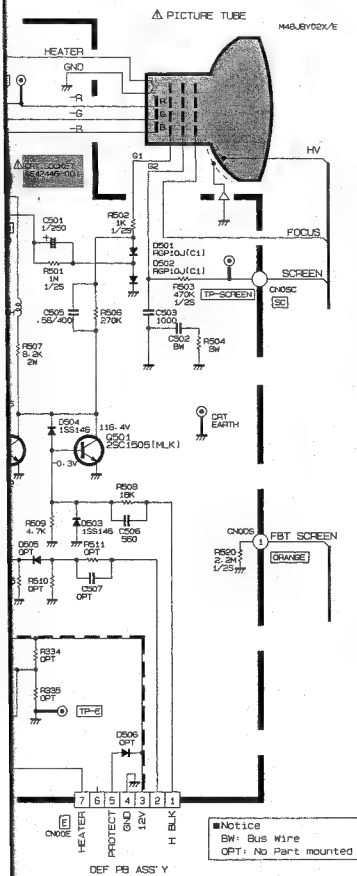


CKF0061-C04 2/3 CHK-54XT



CKF0061-C04 3/3
JVC PWS
CKF0061-C04 3/3

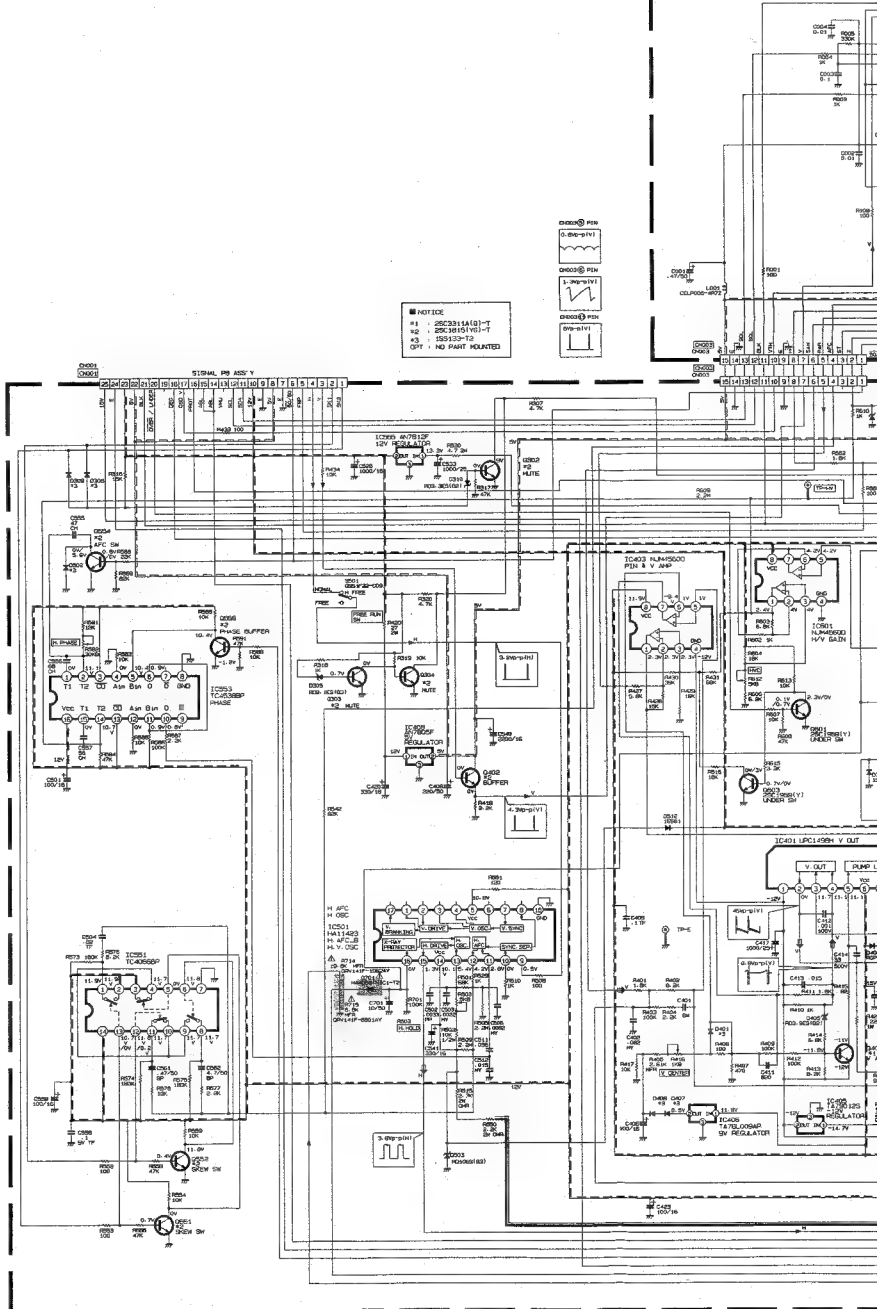




DEFLECTION PWB CIRCUIT DIAGRAM

V. SAW MODULE PB ASS Y
FX-M004A

[M] [0]



DEFLECTION PB ASS'Y [2] FX-2033A(1/2)

PARTS LIST

CAUTION

- The parts identified by the Δ symbol are important for the safety. Whenever replacing these parts, be sure to use specified ones to secure the safety.
- The parts not indicated in this Parts List and those which are filled with lines — in the Parts No. columns will not be supplied.
- P. W. Board Ass'y will not be supplied, but those which are filled with the Parts No. in the Parts No. columns will be supplied.
- As a rule, the resistors and capacitors which are indicated as shown in "HOW TO EXPRESS PARTS NUMBERS OF STANDARD PARTS" are not shown in the list of the parts on the board.

When ordering the service parts, confirm the resistance/rated power, capacitance/rated voltage, and type of the parts, then order by the part No. indicated according to "HOW TO EXPRESS PARTS NUMBERS OF STANDARD PARTS".

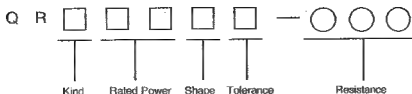
ABBREVIATIONS OF RESISTORS, CAPACITORS AND TOLERANCES

RESISTORS		CAPACITORS	
C R	Carbon Resistor	C CAP.	Ceramic Capacitor
F R	Fusible Resistor	E CAP.	Electrolytic Capacitor
P R	Plate Resistor	M CAP.	Mylar Capacitor
V R	Variable Resistor	HV CAP.	High Voltage Capacitor
HV R	High Voltage Resistor	MF CAP.	Metallized Film Capacitor
MF R	Metal Film Resistor	MM CAP.	Metallized Mylar Capacitor
MG R	Metal Glazed Resistor	MP CAP.	Metallized Polystyrol Capacitor
MP R	Metal Plate Resistor	PP CAP.	Polypropylene Capacitor
OM R	Metal Oxide Film Resistor	PS CAP.	Polystyrol Capacitor
CMF R	Coating Metal Film Resistor	TF CAP.	Thin Film Capacitor
UNF R	Non-Flammable Resistor	MPP CAP.	Metallized Polypropylene Capacitor
CH V R	Chip Variable Resistor	TAN. CAP.	Tantalum Capacitor
CH MG R	Chip Metal Glazed Resistor	CH C CAP.	Chip Ceramic Capacitor
COMP. R	Composition Resistor	BP E CAP.	Bi-Polar Electrolytic Capacitor
LPTC R	Linear Positive Temperature Coefficient Resistor	CH AL E CAP.	Chip Aluminum Electrolytic Capacitor
		CH AL BP CAP.	Chip Aluminum Bi-Polar Capacitor
		CH TAN. E CAP.	Chip Tantalum Electrolytic Capacitor
		CH AL BP E CAP.	Chip Tantalum Bi-Polar Electrolytic Capacitor

TOLERANCES									
F	G	J	K	M	N	III	H	Z	P
$\pm 1\%$	$\pm 2\%$	$\pm 5\%$	$\pm 10\%$	$\pm 20\%$	$\pm 30\%$	+ 30% - 10%	+ 50% - 10%	+ 80% - 20%	+ 100% - 0%

HOW TO EXPRESS PARTS NUMBERS OF STANDARD PARTS

■ RESISTOR



Symbol	Part Name
C	COMP.R
D	C.R
S	CH.MG.R

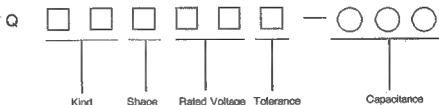
Symbol	Rated Power
0.1	1 w
1/2	1/2 w
1/4	1/4 w
1/6	1/6 w
1/8	1/8 w

Symbol	Shape
1	Straight lead
8	Chip

Indicate with first two-figure expressed by Ω and following 0.
Please note that, in case of resistance less than 10Ω , a letter "R" will be effective as point.

EX.
 $2.2 \Omega = 22$
 $470 \Omega = 47 \times 10^1 \rightarrow 471$
 $150k\Omega = 15 \times 10^4 \rightarrow 154$

■ CAPACITOR



Symbol	Part Name
CS	C CAP.
CS	CH.C CAP.
ET	E CAP.
FM	M CAP.

5 Figure	0	1	2
	A		
A		10V	100V
C		16V	160V
D			200V
E		25V	250V
H		50V	500V
J	6.3V	63V	
V		35V	

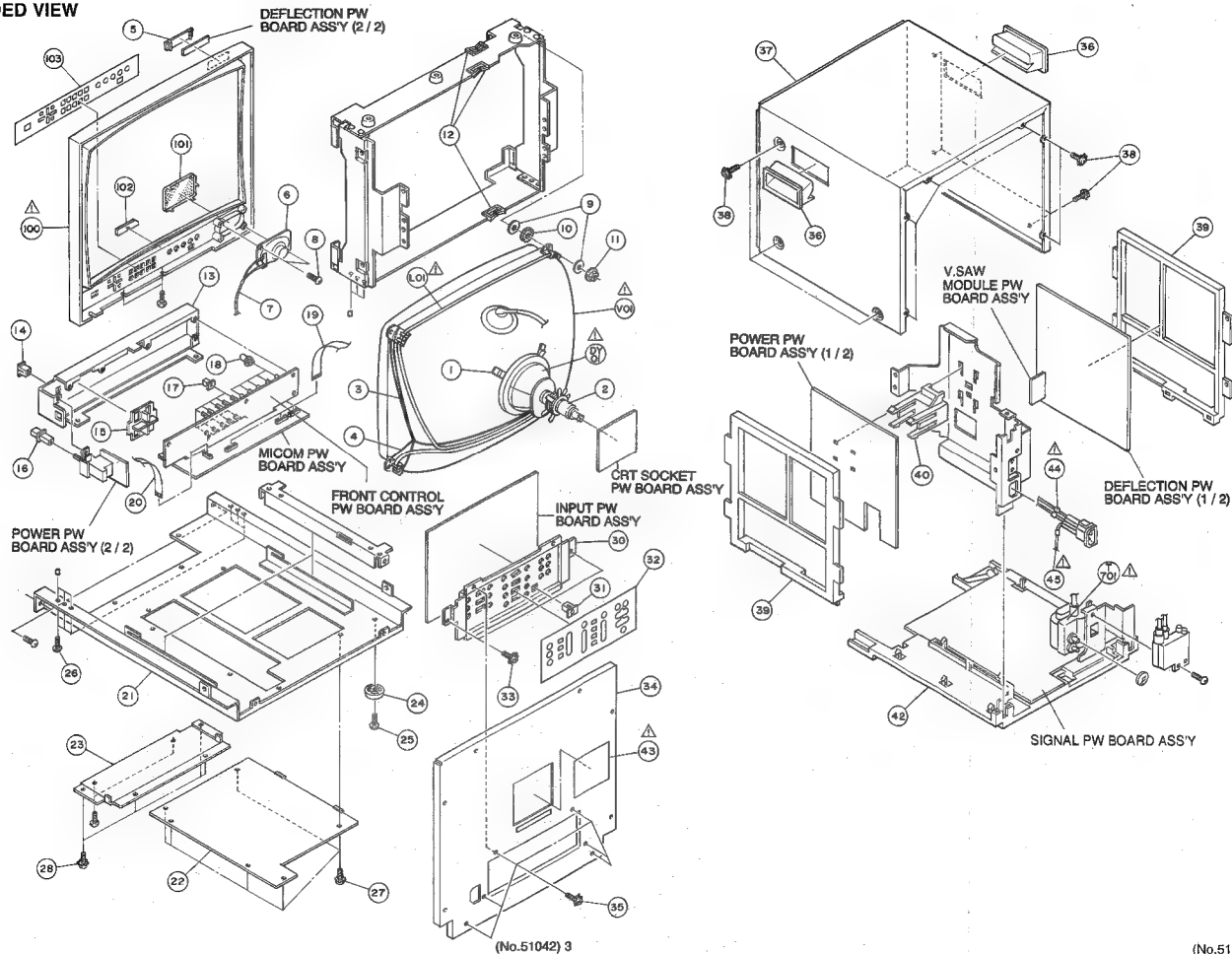
Indicate with first two-figure expressed by pF and following 0.

Please note that, in case of capacitance less than 10 pF a letter "R" will be effective as point.

EX.
 $5 \text{ pF} = 50$
 $1000 \text{ pF} = 10 \times 10^2 \rightarrow 102$
 $47 \text{ pF} = 47 \times 10^0 \rightarrow 476$

Symbol	Shape
1	Straight lead
1	Leads in the same direction
■	Chip
A	Leads in the same direction (compact part)

EXPLODED VIEW



EXPLODED VIEW PARTS LIST

△ Ref.No.	Part No.	Part Name	Description	Local
△ V01	M48JBV02X/E	C R T		
△ DV01	C328229-00A	DEF YOKE		
△ L01	CEL0056-001	DEG COIL		
△ T701	C328256-00A	FBT		
1	CE40764-00A	WEDGE ASSY	× 3	
2	CE42378-00B	P.C.MAGNET		
3	CHG80015-0B-G	BRAIDED ASSY		
4	CHG80017-0C-N	BRAIDED SUB ASSY	× 2	
5	CM44530-E01	TALLY PLATE		
6	9050-03T	CONE SPEAKER	SP01	
7	CHG50003-0G-G	S.P. WIRE ASSY		
8	SBSF40122	T.SCREW	× 2	
9	Q03091-152	WASHER	× 8	
10	A48094-1	RUBBER BUSHING	× 4	
11	NFS90002	FLANGE NUT	× 4	
12	CM41993-001	EDGE SADDLE	× 3	
13	CM22909-001	CONTROL BRACKET		
14	CM48008-001	LINKAGE BUSHING		
15	CM38251-001	CURSOR KNOB		
16	CM46116-801	POWER KNOB		
17	CM46044-001	PUSH KNOB	× 10	
18	CM47853-002	VOLUME KNOB	× 5	
19	CMF8113-188D-N	FFC WIRE	× 3	
20	CMF8109-248D-N	FFC WIRE		
21	CM12684-A0A	BOTTOM BASE ASSY		
22	CM22919-001	BOTTOM SHIELD		
23	CM36249-A01	SHIELD COVER		
24	CM40054-00F	FOOT ASSY	× 4	
25	SBSF40122	T.SCREW	× 4	
26	SBSF40122	T.SCREW	× 6	
27	SBSF40122	T.SCREW	× 6	
28	SBSF40122	T.SCREW	× 4	
30	CM36948-A01	TERMINAL PANEL		
31	CM48008-001	LINKAGE BUSHING		
32	CM36944-A01	TERMINAL SHEET		
33	CM44287-00C	ASSY SCREW	× 2	
34	CM12592-00A	REAR PANEL ASSY		
36	CM44287-00C	ASSY SCREW	× 8	
38	CM35328-A01	HANDLE	× 2	
37	CM12680-001	TOP COVER		
38	CM44287-00C	ASSY SCREW	× 12	
39	CM12530-A01-V0	PB BASE		
40	CM2762-001-V0	TRANSF. HOLDER		
41	CMK8004-001	SP INLET		
42	CM12631-001-V0	CHASSIS BASE		
43	CM22867-007(R)	ROLL R LABEL		
44	CHG50032-0A-G	CONNECTOR ASSY		
45	CHG50033-0A-G	RECEP WIRE ASSY		
△ 100	CM12697-A0B-H0	FRONT PANEL ASSY	Inc.No.101-103	
101	CM47847-001	SPEAKER NET		
102	CM45094-001	JVC MARK		
103	CM22912-001	CONTROL SHEET		

PRINTED WIRING BOARD PARTS LIST

SIGNAL PW BOARD ASS'Y (FX-1072A)

△ Symbol No.	Part No.	Part Name	Description	Local
VARIABLE RESISTOR				
R1107	QVPC611-202HZ	V R	2kΩ B COMB1 LEVEL	
R1111	QVPC111-501HZ	V R	500Ω D COMB2 LEVEL	
R1120	QVPC611-202HZ	V R	2kΩ B COMB2 PHASE	
R2120	QVPC611-202HZ	V R	2kΩ B OL AMP	
R1570	QVPC611-503HZ	V R	500kΩ B V.SYNC	
CAPACITOR				
C1102-06	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1107	NCT03CH-121AY	CHIP CAP.	120pF 1600V H	
C1108	NCT03CH-470AY	CHIP CAP.	47pF 1600V H	
C1109-10	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1111	NCT03CH-560AY	CHIP CAP.	56pF 1600V H	
C1112-13	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1114	QEW61CW-476Z	BP CAP.	47μF 16V H	
C1115	NCT03CH-120AY	CHIP CAP.	12pF 1600V H	
C1116	NCT03CH-560AY	CHIP CAP.	56pF 1600V H	
C1117	QAT3110-300A	TRIM.CAP.	30pF NTSC NOTCH	
C1118	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1122	QAT3110-300A	TRIM.CAP.	30pF PAL NOTCH	
C1123	NCT03CH-101AY	CHIP CAP.	100pF 1600V H	
C1124	NCB21HK-822AY	CHIP CAP.	8200pF 50V K	
C1125	NCT03CH-8R0AY	CHIP CAP.	8pF 1600V H	
C1201-02	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1203	NCT03CH-680AY	CHIP CAP.	68pF 1600V H	
C1204	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1205	NCT03CH-101AY	CHIP CAP.	100pF 1600V H	
C1206	QAT3110-450A	TRIM.CAP.	45pF L1SSAJOUS3	
C1207	QAT3110-450A	TRIM.CAP.	45pF L1SSAJOUS2	
C1208	NCT03CH-121AY	CHIP CAP.	120pF 1600V H	
C1209	QAT3110-450A	TRIM.CAP.	45pF L1SSAJOUS1	
C1210	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1211	NCT03CH-221AY	CHIP CAP.	220pF 1800V H	
C1212	NCB21HK-273AY	CHIP CAP.	0.027μF 50V K	
C1213	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1217	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1218	QEW61CW-108Z	BP CAP.	10μF 16V H	
C1219	QFLC1HJ-153MZ	M CAP.	0.015μF 50V J	
C1220	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1221	NCT03CH-270AY	CHIP CAP.	27pF 1600V H	
C1222	QAT3110-300A	TRIM.CAP.	30pF 3.58APC	
C1223	NCT03CH-270AY	CHIP CAP.	27pF 1600V H	
C1224	QAT3110-300A	TRIM.CAP.	30pF 4.43APC	
C1225	NCT03CH-470AY	CHIP CAP.	47pF 1600V H	
C1226	NCT03CH-390AY	CHIP CAP.	39pF 1600V H	
C1227	NCT03CH-8R0AY	CHIP CAP.	8pF 1600V H	
C1228	NCT03CH-181AY	CHIP CAP.	180pF 1600V H	
C1229	NCT03CH-390AY	CHIP CAP.	39pF 1600V H	
C1230	NCT03CH-8R0AY	CHIP CAP.	8pF 1600V H	
C1231	NCT03CH-181AY	CHIP CAP.	180pF 1600V H	
C1234	NCB21HK-473AY	CHIP CAP.	0.047μF 50V K	
C1235	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1237	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1238	NCB21HK-223AY	CHIP CAP.	0.022μF 50V K	
C1239	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1240	NCT03CH-151AY	CHIP CAP.	150pF 1600V H	
C1242	NCT03CH-680AY	CHIP CAP.	68pF 1600V H	
C1302	QFV71HJ-104MZ	TF CAP.	0.1μF 50V J	
C1306	QFV71HJ-104MZ	TF CAP.	0.1μF 50V J	
C1309	NCT03CH-8R0AY	CHIP CAP.	8pF 1600V H	
C1332	QFV71HJ-104MZ	TF CAP.	0.1μF 50V J	
C1336	QFV71HJ-104MZ	TF CAP.	0.1μF 50V J	
C1362	QFV71HJ-104MZ	TF CAP.	0.1μF 50V J	
C1366	QFV71HJ-104MZ	TF CAP.	0.1μF 50V J	

Symbol No.	Part No.	Part Name	Description	Local
CAPACITOR				
C1382	NCB21HK-473AY	CHIP CAP.	0.047 μ F 50V	K
C1383	NCB21HK-103AY	CHIP CAP.	0.01 μ F 50V	K
C1402	NCB21HK-103AY	CHIP CAP.	0.01 μ F 50V	K
C1403	QEN61HM-106Z	BP E CAP.	1 μ F 50V	M
C1406-07	QFV71HJ-104MZ	TF CAP.	0.1 μ F 50V	J
C1410	QFV71HJ-104MZ	TF CAP.	0.1 μ F 50V	J
C1452	NCB21HK-103AY	CHIP CAP.	0.01 μ F 50V	K
C1453-54	NCB21HK-473AY	CHIP CAP.	0.047 μ F 50V	K
C1461	QFV71HJ-334MZ	TF CAP.	0.33 μ F 50V	J
C1462	NCB21HK-102AY	CHIP CAP.	1000 pF 50V	K
C1463-65	QFV71HJ-224MZ	TF CAP.	0.22 μ F 50V	J
C1467	NCB21HK-103AY	CHIP CAP.	0.01 μ F 50V	K
C1469	NCB21HK-103AY	CHIP CAP.	0.01 μ F 50V	K
C1502	NCB21HK-103AY	CHIP CAP.	0.01 μ F 50V	K
C1503	QEN61CM-476Z	BP E CAP.	47 μ F 16V	M
C1504	QEN61HM-106Z	BP E CAP.	1 μ F 50V	M
C1505	NCB21HK-222AY	CHIP CAP.	2200 pF 50V	K
C1508-09	NCB21HK-103AY	CHIP CAP.	0.01 μ F 50V	K
C1511	NCB21HK-222AY	CHIP CAP.	2200 pF 50V	K
C1512	NCB21HK-102AY	CHIP CAP.	1000 pF 50V	K
C1513	NCT03CH-101AY	CHIP CAP.	100 pF 1600V	H
C1516	NCT03CH-181AY	CHIP CAP.	180 pF 1600V	H
C1517	NCT03CH-820AY	CHIP CAP.	82 pF 1600V	H
C1562-54	NCB21HK-473AY	CHIP CAP.	0.047 μ F 50V	K
C1555	NCT03CH-391AY	CHIP CAP.	390 pF 1600V	H
C1556	NCT03CH-331AY	CHIP CAP.	330 pF 1600V	H
C1557-58	NCB21HK-222AY	CHIP CAP.	2200 pF 50V	K
C1559	NCT03CH-330AY	CHIP CAP.	33 pF 1600V	H
C1561	NCT03CH-680AY	CHIP CAP.	68 pF 1600V	H
C1562	NCT03CH-271AY	CHIP CAP.	27 pF 1600V	H
C1563	NCT03CH-680AY	CHIP CAP.	68 pF 1600V	H
C1564	NCT03CH-121AY	CHIP CAP.	120 pF 1600V	H
C1567	QFP31HJ-153SZ	PP CAP.	0.015 μ F 50V	J
C1568	NCB21HK-222AY	CHIP CAP.	2200 pF 50V	K
C1569	NCB21HK-183AY	CHIP CAP.	0.018 μ F 50V	K
C1570	NCB21HK-393AY	CHIP CAP.	0.039 μ F 50V	K
C1571	NCB21HK-472AY	CHIP CAP.	4700 pF 50V	K
C1601	QEH61CM-107MZ	E CAP.	100 μ F 16V	M
C1602	NCB21HK-103AY	CHIP CAP.	0.01 μ F 50V	K
C1603	QEH61HM-105MZ	E CAP.	1 μ F 50V	M
C1605	QFV71HJ-104MZ	TF CAP.	0.1 μ F 50V	J
C1607	QEH61CM-227MZ	E CAP.	220 μ F 16V	M
C1610	QFV71HJ-104MZ	TF CAP.	0.1 μ F 50V	J
C1611	NCB21HK-333AY	CHIP CAP.	0.033 μ F 50V	K
C1612	QEH61HM-475MZ	E CAP.	4.7 μ F 50V	M
C1702	QFLC1HK-473MZ	MYLAR CAP.	0.047 μ F 50V	K
TRANSFORMER				
T1101	CE41072-001	B.PASS TRANSF.	COMB1 PHASE	
T1102	CE40176-001	DL P.TRANSF.		
T1201	CEL1034-002	B.PASS TRANSF.		
T1701	CJ28256-00A	FBT		
COIL				
L1101	CELP026-100Z	PEAKING COIL	10 μ H	
L1102	CELP026-150Z	PEAKING COIL	15 μ H	
L1103	CELP026-5R6Z	PEAKING COIL	5.6 μ H	
L1104	CELP026-270Z	PEAKING COIL	27 μ H	
L1201-02	CELP026-8R2Z	PEAKING COIL	8.2 μ H	
L1203	CELP026-390Z	PEAKING COIL	39 μ H	
L1204	CELP026-4R7Z	PEAKING COIL	4.7 μ H	
L1206-07	CELP026-820Z	PEAKING COIL	82 μ H	
L1601	CELP026-4R7Z	PEAKING COIL	4.7 μ H	
DIODE				
D1101	MA151K-X	DIODE		

△ Symbol No.	Part No.	Part Name	Description	Local
D I O D E				
D1201-03	MA151K-X	DIODE		
D1461-56	MA3082(M)-X	CHIP ZENER DIODE		
D1601	MA151K-X	DIODE		
D1502	MA3047(L)-X	CHIP ZENER DIODE		
D1552-53	1SS133-T2	SI. DIODE		
D1554	MA151K-X	DIODE		
D1702	1SS81-T6	SI. DIODE		
T R A N S I S T O R				
Q1101-05	2SC2712(Y6)-X	CHIP TRANSISTOR		
Q1106-07	2SA1162(Y6)-X	CHIP TRANSISTOR		
Q1108-16	2SC2712(Y6)-X	CHIP TRANSISTOR		
Q1110-17	2SA1162(Y6)-X	CHIP TRANSISTOR		
Q1118	2SC2712(Y6)-X	CHIP TRANSISTOR		
Q1201-08	2SC2712(Y6)-X	CHIP TRANSISTOR		
Q1210	2SC2712(Y6)-X	CHIP TRANSISTOR		
Q1212	2SC2712(Y6)-X	CHIP TRANSISTOR		
Q1301-02	2SC2712(Y6)-X	CHIP TRANSISTOR		
Q1303	2SK374(Q)-X	F.E.T.		
Q1304-08	2SC2712(Y6)-X	CHIP TRANSISTOR		
Q1307	2SA1162(Y6)-X	CHIP TRANSISTOR		
Q1308	2SC2712(Y6)-X	CHIP TRANSISTOR		
Q1331-32	2SC2712(Y6)-X	CHIP TRANSISTOR		
Q1333	2SK374(Q)-X	F.E.T.		
Q1334	2SC2712(Y6)-X	CHIP TRANSISTOR		
Q1381-02	2SC2712(Y6)-X	CHIP TRANSISTOR		
Q1383	2SK374(Q)-X	F.E.T.		
Q1384	2SC2712(Y6)-X	CHIP TRANSISTOR		
Q1451-53	2SC2712(Y6)-X	CHIP TRANSISTOR		
Q1454	2SA1182(Y6)-X	CHIP TRANSISTOR		
Q1465-02	2SC2712(Y6)-X	CHIP TRANSISTOR		
Q1501	2SA1182(Y6)-X	CHIP TRANSISTOR		
Q1502-06	2SC2712(Y6)-X	CHIP TRANSISTOR		
Q1606	2SA1182(Y6)-X	CHIP TRANSISTOR		
Q1607-09	2SC2712(Y6)-X	CHIP TRANSISTOR		
Q1610	2SA1182(Y6)-X	CHIP TRANSISTOR		
Q1611-15	2SC2712(Y6)-X	CHIP TRANSISTOR		
Q1651	2SA1182(Y6)-X	CHIP TRANSISTOR		
I C				
IC1101	TC4053BP	I.C(DIGI-MOS)		
IC1201	AN6826N	I.C(MONO-ANA)		
IC1202	TC4053BP	I.C(DIGI-MOS)		
IC1203	AN6640	I.C(MONO-ANA)		
IC1204	UPC368HA	I.C(MONO-ANA)		
IC1301-03	UPC368HA	I.C(MONO-ANA)		
IC1304-05	TC4053BP	I.C(DIGI-MOS)		
IC1401	TDA4672	I.C(MONO-ANA)		
IC1402	TDA4680/V6	I.C(DIGI-OTHER)		
IC1403	AN7808	I.C(MONO-ANA)		
IC1501	TC4053BP	I.C(DIGI-MOS)		
IC1502-08	TC4538BP	I.C(DIGI-MOS)		
IC1509	TC4053BP	I.C(DIGI-MOS)		
IC1510	HD74LS00P	I.C(DIGI-OTHER)		
IC1511	HD74LS05P	I.C(DIGI-OTHER)		
IC1601	AN6265	I.C(MONO-ANA)		
O T H E R S				
CN1001-02	CHA401N-25P-J	HQF CONNECTOR		
DL1101	CE41577-002	DELAY LINE		
DL1102	CE40959-001	DELAY LINE		
DL1201	CE41489-001	DELAY LINE(1H)		
X1201	CE40668-001	CRYSTAL		
X1202	CE41953-001	CRYSTAL		

DEFLECTION PW BOARD ASSY (FX-2033A)

△ Symbol No.	Part No.	Part Name	Description	Local
VARIABLE RESISTOR				
R2313	QVPC611-503HZ	V R	50k Ω B SCREEN	
R2416	QVPC611-102HZ	V R	1k Ω B V CENTER	
R2503	QVPC611-502HZ	V R	5k Ω B H.HOLD	
R2582	QVPC611-303HZ	V R	30k Ω B H.PHASE	
R2612	QVPC611-502HZ	V R	5k Ω B HVC	
RESISTOR				
R2405	QRV141F-2611AY	MF R	2.61k Ω 1/4W F	
R2408	QRV141F-8871AY	MF R	8.87k Ω 1/4W F	
R2419	QRX029J-1R0	MF R		
R2420	QRG029J-270	OM R	27 Ω 2W J	
R2422	QRG019J-221S	OM R	220 Ω 1W J	
R2512-13	QRF074K-4R7	UNF R	4.7 Ω 7W K	
R2515	QRG029J-272	OM R	2.7k Ω 2W J	
R2520	QRG029J-102	OM R	1k Ω 2W J	
R2524	QRX029J-1R8	MF R	1.8 Ω 2W J	
R2530-31	QRX029J-4R7	MF R	4.7 Ω 2W J	
R2532	QRG029J-471	OM R	470 Ω 2W J	
R2548-49	QRG029J-102	OM R	1k Ω 2W J	
R2550	QRG029J-222	OM R	2.2k Ω 2W J	
△ R2714	QRV141F-1982AY	MF R	19.8k Ω 1/4W F	
△ R2715	QRV141F-6801AY	MF R	6.8k Ω 1/4W F	
R2801	QRG029J-100	OM R	10 Ω 2W J	
CAPACITOR				
C2301	QFLC1HK-102MZ	M CAP.	1000 pF 50V K	
C2302	QEHC1HM-106MZ	E CAP.	10 μF 50V M	
C2303	QFZ0117-4701S	MPP CAP.	4700 pF	
C2304	QEHC1HM-476MZ	E CAP.	47 μF 50V M	
C2305	QEN61CM-106Z	BP E CAP.	10 μF 18V M	
C2402	QFLC1HK-823MZ	M CAP.	0.082 μF 50V K	
C2406	QEHC1CM-107MZ	E CAP.	100 μF 18V M	
C2408	QEHC1HM-227MZ	E CAP.	220 μF 50V M	
C2409	QFV71HJ-104MZ	TF CAP.	0.1 μF 50V J	
C2410	QFLC2AK-154M	M CAP.	0.15 μF 100V K	
C2412	QFLC2AJ-102MZ	M CAP.	1000 pF 100V J	
C2413	QFLC1HK-153MZ	M CAP.	0.015 μF 50V K	
C2415	QEHC1VM-107MZ	E CAP.	100 μF 35V M	
C2416-17	QEHC1EM-108MZ	E CAP.	1000 pF 25V M	
C2418	QEHC1EM-477MZ	E CAP.	470 μF 25V M	
C2419	QEHC1EM-227MZ	E CAP.	220 μF 25V M	
C2420	QEHC1CM-337MZ	E CAP.	330 μF 18V M	
C2421	QEHC1EM-477MZ	E CAP.	470 μF 25V M	
C2422	QEH81VM-108M	E CAP.	1000 pF 35V M	
C2423	QEHC1CM-107MZ	E CAP.	100 μF 18V M	
C2502	QFP31HJ-332SZ	PP CAP.	3300 pF 50V J	
C2503	QFLC1HJ-222MZ	M CAP.	2200 pF 50V J	
C2504	QFV71HJ-824MZ	TF CAP.	0.82 μF 50V J	
C2505	QFLC1HJ-822MZ	M CAP.	8200 pF 50V J	
C2511	QFLC1HK-563MZ	M CAP.	0.056 μF 50V M	
C2512	QFLC1HK-153MZ	M CAP.	0.015 μF 50V M	
C2514	QFLC2AK-104MZ	M CAP.	0.1 μF 100V K	
△ C2519	QFZ0119-105S	MPP CAP.	1 μF	
△ C2520	QFZ0119-304S	MPP CAP.	0.3 μF	
C2524	QFLC1HK-104MZ	M CAP.	0.1 μF 50V K	
△ C2525	QFZ0117-2001S	MPP CAP.	2000 pF	
C2526	QEHC1EM-108MZ	E CAP.	1000 μF 25V M	
C2527	QFLC1HK-473MZ	M CAP.	0.047 μF 50V K	
C2528	QEHC1CM-108MZ	E CAP.	1000 μF 18V M	
C2529	QEHC1EM-108MZ	E CAP.	1000 μF 25V M	
△ C2530	QFZ0117-7001S	MPP CAP.	7000 pF	
△ C2531	QFZ0117-4701S	MPP CAP.	4700 pF	
△ C2532	QFZ0117-7001S	MPP CAP.	7000 pF	
C2533	QEHC1EM-108MZ	E CAP.	1000 μF 25V M	
C2538	QEZ0195-475MZ	E CAP.	4.7 μF	

Symbol No.	Part No.	Part Name	Description	Local
CAPACITOR				
C2539	QEH81CM-228M	E CAP.	2200 μ F	16V M
C2555	QCT25CH-470Z	C CAP.	47 pF	
C2556	QCT25CH-680Z	C CAP.	68 pF	
C2557	QCT25CH-560Z	C CAP.	56 pF	
C2558	QFV71HJ-104M2	TF CAP.	0.1 μ F	50V J
C2561	QEN61HM-474Z	BP E CAP.	0.47 μ F	50V M
C2562	QEN61HM-475Z	BP E CAP.	4.7 μ F	50V M
C2601	QFLC1HJ-103M2	M CAP.	0.01 μ F	50V J
C2602	QEH81CM-107M2	E CAP.	100 μ F	16V M
C2603	QFV71HJ-104M2	TF CAP.	0.1 μ F	50V J
C2702	QEH81HM-107M2	E CAP.	100 μ F	50V M
C2703	QEH81CM-337M2	E CAP.	330 μ F	16V M
C2704	QEH81EM-107M2	E CAP.	100 μ F	25V M
C2705	QEN61EM-107Z	BP E CAP.	100 μ F	25V M
C2801	QEH81VM-108M	E CAP.	1000 μ F	35V M
TRANSFORMER				
Δ T2502	CE42034-001	H.DRIVE TRANSF.		
COIL				
L2501	CELC009-003	CHOKO COIL		
Δ L2502	CELL009-001	LINEARITY COIL		
L2701	CJ30030-026	HEATER CHOKO		
DIODE				
D2301	RU4DS-C1	SI.DIODE		
D2302	1SS133-T2	SI.DIODE		
D2303	MA4062(M)-T2	ZENER DIODE		
D2304	1SS133-T2	SI.DIODE		
D2305	RD9.1ES(B3)-T2	ZENER DIODE		
D2306-09	1SS133-T2	SI.DIODE		
D2310	RD3.3ES(B2)-T2	ZENER DIODE		
D2401	1SS133-T2	SI.DIODE		
D2402	RGP10J(C1)-T3	SI.DIODE		
D2404	RU30-C1	SI.DIODE		
D2405	RD3.9ES(B2)-T2	ZENER DIODE		
D2406	RD75E(B)-T6	ZENER DIODE		
Δ D2407-08	1SS133-T2	SI.DIODE		
D2501	ERD07-16-L	SI.DIODE		
D2502	1SS133-T2	SI.DIODE		
D2503	RD10ES(B3)-T2	ZENER DIODE		
D2504-06	ERD07-16-L	SI.DIODE		
D2506-07	RU3AM-LFC4	SI.DIODE		
D2509	RU4AM-C1	SI.DIODE		
D2510	MA165-T2	SI.DIODE		
D2511	RU3AM-LFC4	SI.DIODE		
D2512	1SS81-T2	SI.DIODE		
D2513	MA4220(M)-T2	ZENER DIODE		
D2515	LD-1203DU	L.E.D. (ORG)	TALLY	
D2601-02	1SS81-T2	SI.DIODE		
D2603	MA4047(M)-T2	ZENER DIODE		
Δ D2701	MA4068(K)C1-T2	ZENER DIODE		
D2702	1SS82-T2	SI.DIODE		
D2703-04	1SS133-T2	SI.DIODE		
D2705	1SS146-T2	SI.DIODE		
D2706	MA4110(M)-T2	ZENER DIODE		
D2708	1SS133-T2	SI.DIODE		
D2709	1SS146-T2	SI.DIODE		
D2711	1SS133-T2	SI.DIODE		
TRANSISTOR				
Q2301	2SC4632	SI.TRANSISTOR		
Q2302-04	2SC1815(YG)-T	SI.TRANSISTOR		
Q2401	2SC3311A(Q)-T	SI.TRANSISTOR		
Q2402-05	2SC1815(YG)-T	SI.TRANSISTOR		
Q2501	2SC3187-T	SI.TRANSISTOR		
Δ Q2502	2SC4589-C1	SI.TRANSISTOR	H.OUT	
Q2504	2SA1309A(R)-T	SI.TRANSISTOR		

Symbol No.	Part No.	Part Name	Description	Local
TRANSISTOR				
Q2506	2SC1815(YG)-T	SI. TRANSISTOR		
Q2510	2SA1309A(R)-T	SI. TRANSISTOR		
Q2511	2SD1408(OY)-LB	POWER TRANSISTOR		
Q2551-52	2SC1815(YG)-T	SI. TRANSISTOR		
Q2554	2SC1816(Y)-T	SI. TRANSISTOR		
Q2556	2SC1816(YG)-T	SI. TRANSISTOR		
Q2601	2SC1959(Y)-T	SI. TRANSISTOR		
Q2603	2SC1959(Y)-T	SI. TRANSISTOR		
Q2701	2SC1816(YG)-T	SI. TRANSISTOR		

I C				
IC2301	NJM4560D	I. C(MONO-ANA)		
IC2303	AN791.05-Y	I. C.		
IC2401	UPC149BH	I. C(MONO-ANA)		
IC2403	NJM4560D	I. C(MONO-ANA)		
IC2404	AN7812F	I. C(MONO-ANA)		
IC2405	TA79012S	I. C(MONO-ANA)		
IC2406	TA78L009AP-Y	I. C		
IC2407	AN7812F	I. C(MONO-ANA)		
IC2408	AN7805F	I. C(MONO-ANA)		
IC2501	HA11423	I. C(MONO-ANA)		
IC2551	TC4066BP	I. C(DIGI-MOS)		
IC2553	TC4538BP	I. C(DIGI-MOS)		
IC2554-55	AN7812F	I. C(MONO-ANA)		
IC2501	NJM4560D	I. C(MONO-ANA)		

OTHERS				
△ CP2001	ICP-N75-Y	I. C. PROTECT		
△ FR2301	QRH127J-182M	F R	1.8k Ω	1/2W J
△ FR2426	QRH127K-R22M	F R	0.22 Ω	1/2W K
△ FR2525	QRH127J-1R0M	F R	1 Ω	1/2W J
△ FR2702	QRH127K-R22M	F R	0.22 Ω	1/2W K
△ FR2704	QRH127J-4R7M	F R	4.7 Ω	1/2W J
S2501	QSS1F22-C09	SLIDE SWITCH	FREE RUN SW	

FRONT CONTROL PW BOARD ASS'Y (FX-4039A)

Symbol No.	Part No.	Part Name	Description	Local
VARIABLE RESISTOR				
R4001	QVGA003-CB14A	V R	BRIGHT	
R4002	QVGA003-CB14A	V R	CONTRAST	
R4003	QVGA003-CB14A	V R	CHROMA	
R4004	QVGA003-CB14A	V R	PHASE	
R4005	QVGA004-CB14A	V R	VOLUME	
CAPACITOR				
C4101	QEK03M-107MZ	E CAP.	100 μ F	6.3V ■
C4102	QCZ0207-104AZ	C CAP.	0.1 μ F	
DIODE				
D4101-14	MA165-T2	SI. DIODE		
D4115-19	RD6.6ES(B3)-T2	ZENER DIODE		
D4120	GL6K68	L.E.D.	POWER	
D4121-23	MA165-T2	SI. DIODE		
OTHERS				
S4101	CM48038-001	L.E.D. HOLDER		
S4102	QSTL535-C01	PUSH SWITCH	UNDER P/CROSS etc	
S4103	QSTL535-C02	PUSH SWITCH	VIDEO A/B, RGB, etc	
S4104	QSP4H11-C12Z	PUSH SWITCH	MENU	
S4105	QSP4H11-C12Z	PUSH SWITCH	ENTER	
S4106	QSP4H11-C12Z	PUSH SWITCH	UP	
S4107	QSP4H11-C12Z	PUSH SWITCH	DOWN	
			LEFT	
S4108	QSP4H11-C12Z	PUSH SWITCH	RIGHT	
S4109	QSP4H11-C12Z	PUSH SWITCH	DEGAUSS	

CRT SOCKET PW BOARD ASS'Y (FX-3037A)

Symbol No.	Part No.	Part Name	Description	Local
RESISTOR				
R3310-16	QRG029J-103	OM R	10k Ω 2W J	
R3322	QRD149J-102S	C R	1k Ω 1/4W J	
R3323	QRD149J-102S	C R	1k Ω 1/4W J	
R3324	QRD149J-102S	C R	1k Ω 1/4W J	
R3507	QRG029J-622	OM R	8.2k Ω 2W J	
CAPACITOR				
C3321	QETC2EM-105Z	E CAP.	1 μ F 250V M	
C3501	QETC2EM-105Z	E CAP.	1 μ F 250V M	
C3503	QCZ0121-102M	C CAP.	1000 pF	
C3505	QFP32GK-563M	PP CAP.	0.056 μ F 400V K	
COIL				
L3301	CELP026-5R6Z	PEAKING COIL	5.6 μ H	
L3302	CELP026-4R7Z	PEAKING COIL	4.7 μ H	
L3303	CELP026-3R9Z	PEAKING COIL	3.9 μ H	
L3304	CELP026-220Z	PEAKING COIL	22 μ H	
L3305	CELP026-180Z	PEAKING COIL	18 μ H	
L3306	CELP026-220Z	PEAKING COIL	22 μ H	
L3501	A49466-56Z	PEAKING COIL	5600 μ H	
DIODE				
D3301-03	MA165-T2	SI DIODE		
D3304-06	1SS244-T2	SI DIODE		
D3307-09	1SS120-T2	SI DIODE		
D3316	MA4076(M)-T2	ZENER DIODE		
D3501-02	RGPI0J(C1)-T3	SI DIODE		
D3503-04	1SS146-T2	SI DIODE		
TRANSISTOR				
Q3301-03	2SC4502-T	SI TRANSISTOR		
Q3304-06	2SC4644-C1	SI TRANSISTOR		
Q3307-09	2SA1321-T	SI TRANSISTOR		
Q3310-12	2SC3334-T	SI TRANSISTOR		
Q3501	2SC1506(MLK)	SI TRANSISTOR		
OTHERS				
SK3001	CE42446-001	CRT SOCKET		

MICOM PW BOARD ASS'Y (FX-5013A)

△ Symbol No.	Part No.	Part Name	Description	Local
C A P A C I T O R				
C5101	QEK1CM-476MZ	E CAP.	47 μ F 16V	■
C5102	NCB21HK-103AY	CHIP CAP.	0.01 μ F 50V	K
C5103-04	NCF21HZ-104AY	CHIP C CAP.	0.1 μ F 50V	Z
C5105-09	NCF21HK-103AY	CHIP CAP.	0.01 μ F 50V	K
C5110-12	NCF21HZ-104AY	CHIP C CAP.	0.1 μ F 50V	Z
C5113	QEK1CM-476MZ	E CAP.	47 μ F 16V	■
C5114	NCT03CH-330AY	CHIP CAP.	33 μ F 1600V	H
C5116	NCF21HZ-104AY	CHIP C CAP.	0.1 μ F 50V	Z
C5117	QEK03JM-107MZ	E CAP.	100 μ F 6.3V	M
C5118	NCF21HZ-104AY	CHIP C CAP.	0.1 μ F 50V	Z
C5119	QEK03JM-107MZ	E CAP.	100 μ F 6.3V	M
C5120	NCF21HZ-104AY	CHIP C CAP.	0.1 μ F 50V	Z
C5121	QEK03JM-107MZ	E CAP.	100 μ F 6.3V	M
C5122	NCF21HZ-104AY	CHIP C CAP.	0.1 μ F 50V	Z
C5123	QEK1CM-476MZ	E CAP.	47 μ F 16V	■
C5124	NCF21HZ-104AY	CHIP C CAP.	0.1 μ F 50V	Z
C5126	NCF21HZ-104AY	CHIP C CAP.	0.1 μ F 50V	Z
C5127	NCT03CH-7R0AY	CHIP CAP.	7 μ F 1600V	H
C5128-29	NCF21HZ-104AY	CHIP C CAP.	0.1 μ F 50V	Z
C5201-03	QEK1CM-105GMZ	E CAP.	1 μ F 50V	M
C5301	QEK1CM-106GMZ	E CAP.	10 μ F 18V	■
C5302	QEK1CM-224GMZ	E CAP.	0.22 μ F 50V	■
C5303	NCB21HK-223AY	CHIP CAP.	0.022 μ F 50V	K
C5304	QEK1CM-105GMZ	E CAP.	1 μ F 50V	M
C5401-03	QEK1CM-105GMZ	E CAP.	1 μ F 50V	M
C O I L				
L5101-02	CELP008-100YL	CHIP P COIL		
L5103	CELP008-330YL	INDUCTOR		
D I O D E				
D5101-11	MA3056(L)-X	ZENER DIODE		
D5112	MA3043-X	CHIP ZENER DIODE		
D5113-14	MA151K-X	DIODE		
D5301	MA151K-X	DIODE		
D5501-04	MA3056(L)-X	ZENER DIODE		
D5701	MA3150(M)-X	ZENER DIODE		
D5702-04	MA3056(L)-X	ZENER DIODE		
D5705-06	MA3150(M)-X	ZENER DIODE		
D5707-08	MA3056(L)-X	ZENER DIODE		
D5709-11	MA3150(M)-X	ZENER DIODE		
D5712	MA8130-X	CHIP ZENER DIODE		
D5713	MA3056(L)-X	ZENER DIODE		
D5714	MA8056-X	CHIP ZENER DIODE		
D5715	MA3056(L)-X	ZENER DIODE		
D5716	MA8056-X	CHIP ZENER DIODE		
D5717	MA3150(M)-X	ZENER DIODE		
D5718	MA3056(L)-X	ZENER DIODE		
D5719	MA8130-X	CHIP ZENER DIODE		
D5720-22	MA3056(L)-X	ZENER DIODE		
D5723	MA8056-X	CHIP ZENER DIODE		
D5724	MA3150(M)-X	ZENER DIODE		
D5725	MA8130-X	CHIP ZENER DIODE		
D5726	MA3056(L)-X	ZENER DIODE		
D5727	MA8056-X	CHIP ZENER DIODE		
D5728-32	MA3056(L)-X	ZENER DIODE		
T R A N S I S T O R				
Q5101-06	2SC2712(YG)-X	CHIP TRANSISTOR		
Q5201	2SC2712(YG)-X	CHIP TRANSISTOR		
Q5202	2SA1162(YG)-X	CHIP TRANSISTOR		
Q5203	2SC2712(YG)-X	CHIP TRANSISTOR		
Q5204	2SA1162(YG)-X	CHIP TRANSISTOR		
Q5205	2SC2712(YG)-X	CHIP TRANSISTOR		
Q5206	2SA1162(YG)-X	CHIP TRANSISTOR		

Symbol No.	Part No.	Part Name	Description	Local
TRANSISTOR				
Q5207-10	2SC2712(YG)-X	CHIP TRANSISTOR		
Q5301-03	2SA1162(YG)-X	CHIP TRANSISTOR		
Q5304	2SC2712(YG)-X	CHIP TRANSISTOR		
Q5401	2SC2712(YG)-X	CHIP TRANSISTOR		
I C				
IC5101	M89647PF-125	I C		
IC5102	M890077PF-109	I.C.(MICRO-COMP)		
IC5103	ST24BM-1400	I C		
IC5105	GP1U781Q	IFR DETECT UNIT		
IC5106	HD74HC156FP	I.C.(DIGI-OTHER)		
IC5108	HD74HC32FP	I.C.		
IC5401	UPC4658G-W	I.C.(MONO-ANA)		
OTHERS				
CF5101	CM46946-001	SHIELD PLATE		
	CST8.00MTW	CER. RESONATOR		

INPUT PW BOARD ASS'Y (FX-6047A)

Symbol No.	Part No.	Part Name	Description	Local
RESISTOR				
R8201	QRV141F-75ROAY	MF R	75 Ω 1/4W	F
R8211	QRV141F-75ROAY	MF R	75 Ω 1/4W	F
R8231	QRV141F-75ROAY	MF R	75 Ω 1/4W	F
R8301	QRV141F-75ROAY	MF R	75 Ω 1/4W	F
R8701	QRV141F-75ROAY	MF R	75 Ω 1/4W	F
R8731	QRV141F-75ROAY	MF R	75 Ω 1/4W	F
R8761	QRV141F-75ROAY	MF R	75 Ω 1/4W	F
CAPACITOR				
C8201	QEK11HM-475GMZ	E CAP.	4.7 μ F 50V	N
C8203	QEK11CM-336MZ	E CAP.	33 μ F 16V	N
C8205	QEK11HM-475GMZ	E CAP.	4.7 μ F 50V	N
C8207	QEK11CM-336MZ	E CAP.	33 μ F 16V	N
C8220	QEK11HM-475GMZ	E CAP.	4.7 μ F 50V	N
C8230-31	QFLC1HK-333MZ	M CAP.	0.033 μ F 50V	K
C8281-84	QEK11CM-107MZ	E CAP.	100 μ F 16V	N
C8301	QFLC1HJ-103MZ	M CAP.	0.01 μ F 50V	J
C8751	QEK11HM-475GMZ	E CAP.	4.7 μ F 50V	N
C8783-84	QFLC1HJ-104MZ	M CAP.	0.1 μ F 50V	J
COIL				
L8701	CELP026-330Z	PEAKING COIL	33 μ H	
L8702	CELP026-880Z	PEAKING COIL	88 μ H	
L8703	CELP026-330Z	PEAKING COIL	33 μ H	
L8704	CELP026-880Z	PEAKING COIL	88 μ H	
DIODE				
D8201-09	1SS133-T2	SI.DIODE		
D8211-12	1SS133-T2	SI.DIODE		
D8301-03	1SS133-T2	SI.DIODE		
D8701-12	1SS133-T2	SI.DIODE		
D8801-08	1SS133-T2	SI.DIODE		
TRANSISTOR				
Q6201-03	2SC1740S(R)-T	SI.TRANSISTOR		
Q6204	2SC1740S(QR)-T	SI.TRANSISTOR		
Q6208	2SC1740S(QR)-T	SI.TRANSISTOR		
Q6211	2SK301(Q)-T	F.E.T.		
Q6301	2SC1740S(R)-T	SI.TRANSISTOR		
Q6302-03	2SC1740S(QN)-T	SI.TRANSISTOR		
Q6601-03	2SC1740S(R)-T	SI.TRANSISTOR		
Q6604-06	2SC1740S(QR)-T	SI.TRANSISTOR		
Q6701-03	2SC1740S(R)-T	SI.TRANSISTOR		
Q6704	2SC1740S(QR)-T	SI.TRANSISTOR		
Q6706	2SC1740S(QR)-T	SI.TRANSISTOR		

Symbol No.	Part No.	Part Name	Description	Local
TRANSISTOR				
Q6707	2SA933S(QR)-T	SI.TRANSISTOR		
Q6708-09	2SC1740S(QR)-T	SI.TRANSISTOR		
Q6711	2SC1740S(QR)-T	SI.TRANSISTOR		
Q6712	2SA933S(QR)-T	SI.TRANSISTOR		
Q6713-14	2SC1740S(QR)-T	SI.TRANSISTOR		
Q6716-20	2SC1740S(QR)-T	SI.TRANSISTOR		
I C				
IC6201	LA7016	I.C(MONO-ANA)		
IC6601	TC4066BP	I.C(DIGI-MOS)		
IC6701	TC4053BP	I.C(DIGI-MOS)		
IC6801	HD74LS04P	I.C(DIGI-OTHER)		
OTHERS				
CN6002	CHA401N-25R-J	HQF CONNECTOR		
J6201	CEMB010-004	BNC CONNECTOR	VIDEO A/B /SYNC IN	
J6202	CEMB010-004	BNC CONNECTOR	VIDEO A/B /SYNC OUT	
J6301	QMC0005-C01	DIN CONNECTOR	Y/C IN	
J6302	QMC0005-C01	DIN CONNECTOR	Y/C OUT	
J6601	CEMN070-001	PIN JACK	AUDIO A OUT/IN	
J6602	CEMN070-001	PIN JACK	AUDIO B OUT/IN	
J6603	CEMN070-001	PIN JACK	AUDIO C OUT/IN	
J6701	CEMB010-004	BNC CONNECTOR	G/Y/B/B-Y/R/R-Y IN	
OTHERS				
J6702	CEMB010-004	BNC CONNECTOR	G/Y/B/B-Y/R/R-Y OUT	
J6801	QMC0502-C01	DIN JACK		
S6201-03	QSS4C22-C02	SLIDE SWITCH	OPEN \leftrightarrow 75 Ω	
S6701-04	QSS4C22-C02	SLIDE SWITCH	OPEN \leftrightarrow 75 Ω	

POWER PW BOARD ASS'Y (FX-9043A)

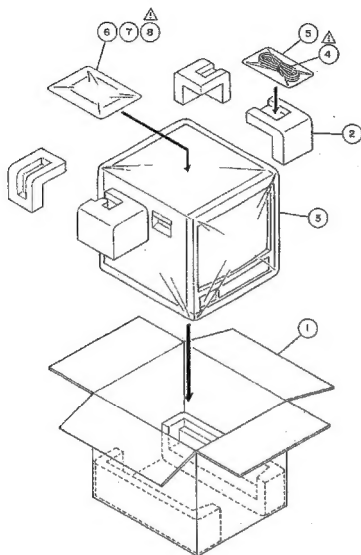
△ Symbol No.	Part No.	Part Name	Description	Local
VARIABLE RESISTOR				
R9036	QVPC611-102HZ	V R	1kΩ B B1.ADJ	
RESISTOR				
△ R9002	QRD122J-474S	C R	470kΩ 1/2W J	
R9005-06	QRD123J-104SX	C R	100kΩ 1/2W J	
R9014	QAM059K-R22	MP R	0.22 Ω 5W K	
R9016	QRG039J-563A	OM R	56kΩ 3W J	
R9016	QRD123J-182SX	C R	1.8kΩ 1/2W J	
R9030	QRD123J-100SX	C R	10 Ω 1/2W J	
R9034	QRV141F-2202AY	MF R	22kΩ 1/4W F	
R9035	QRV141F-1962AY	MF R	19.6kΩ 1/4W F	
R9037	QRV141F-3901AY	MF R	3.9kΩ 1/4W F	
R9039	QRD123J-154SX	C R	150kΩ 1/2W J	
R9041	QRD123J-164SX	C R	150kΩ 1/2W J	
R9042	QRD123J-183SX	C R	18kΩ 1/2W J	
R9043	QRD123J-184SX	C R	180kΩ 1/2W J	
R9044	QRV141F-3901AY	MF R	3.9kΩ 1/4W F	
R9045	QRV141F-2701AY	MF R	2.7kΩ 1/4W F	
R9048	QRV141F-1601AY	MF R	1.6kΩ 1/4W F	
R9053	QRX029J-R55A	MF R	0.56 Ω 2W J	
R9054	QRD123J-270SX	C R	27 Ω 1/2W J	
R9060	QRF154K-4R7	UNF R	4.7 Ω 1/5W K	
R9061-64	QRG039J-123	OM R	12kΩ 3W J	
R9065	QRG039J-223	OM R	22kΩ 3W J	
CAPACITOR				
△ C9001	QCZ9033-472A	C CAP.	4700 p FAC125V M	
△ C9002	QCZ9033-472A	C CAP.	4700 p FAC125V M	
△ C9003	QFZ9036-474M	MM CAP.	0.47 μ FAC125V M	
△ C9004	QFZ9036-474M	MM CAP.	0.47 μ FAC125V M	
△ C9005	QCZ9033-472A	C CAP.	4700 p FAC125V M	
△ C9006	QCZ9033-472A	C CAP.	4800 p FAC125V M	
△ C9007	QCZ9033-332A	C CAP.	3300 p FAC125V M	
△ C9009	QCZ9033-332A	C CAP.	3300 p FAC125V M	
△ C9010	QEZD144-477R	E CAP.	470 μ F	
C9018	QEHCI1M-106MZ	E CAP.	10 μ F 50V M	
C9019	QFP31HJ-162SZ	PP CAP.	1500 p F 50V J	
C9020	QEHCI1M-106MZ	E CAP.	1 μ F 50V M	
C9021	QFLCI1HJ-103MZ	M CAP.	0.01 μ F 50V J	
C9022	QEHCI1M-475MZ	E CAP.	4.7 μ F 50V M	
C9023	QFLCI1HK-222MZ	M CAP.	2200 p F 50V K	
C9026	QEHCI1EM-107MZ	E CAP.	100 μ F 25V M	
C9026	QFLCI1HK-473MZ	M CAP.	0.047 μ F 50V K	
C9027	QEN81HM-105Z	BP E CAP.	1 μ F 50V M	
C9029	QFLCI1HK-472MZ	M CAP.	4700 p F 50V K	
C9036	QFLCI1HJ-103MZ	M CAP.	0.01 μ F 50V J	
C9038	QEHBI1EM-338M	E CAP.	3300 μ F 25V H	
C9039	QEHBI1EM-228M	E CAP.	2200 μ F 25V M	
C9046	QEHBI2CM-227M	E CAP.	220 μ F 180V M	
C9049-51	QEHBI2AM-477M	E CAP.	470 μ F 100V M	
C9516-17	QETB2AM-477	E CAP.	470 μ F 100V M	
TRANSFORMER				
△ T9001	CETS031-001	SM TRANSF		
△ T9002	CE41856-00A	PULSE TRANSF.		
COIL				
L9901	CELP006-4R7Z	PEAKING COIL	4.7 μ H	
L9902	CJ30030-100	HEATER CHOKE		
DIODE				
△ D9001	S4V860-L15	BRIDGE DIODE		
D9005	RG2A-LFC4	SI DIODE		
D9006	FML-G12S	SI DIODE		
D9009	1SS133-T2	SI DIODE		
D9010	RL4Z-C1	SI DIODE		

△ Symbol No.	Part No.	Part Name	Description	Local
D I O D E				
D9012	EG12-T3	SI. DIODE		
D9013-14	1SS133-T2	SI. DIODE		
D9016-17	1SS133-T2	SI. DIODE		
D9018-19	RG4C-C1	SI. DIODE		
D9020	1SS133-T2	SI. DIODE		
D9021-22	MA4068(N)C1-T2	ZENER DIODE		
D9023	MA4110(M)-T2	ZENER DIODE		
D9024	RD5.6ES(B2)-T2	ZENER DIODE		
D9026	RD18ES(B3)-T2	ZENER DIODE		
D9027	MA4300(M)-T2	ZENER DIODE		
D9028	1SS81-T6	SI. DIODE		
D9032	1SS81-T6	SI. DIODE		
D9033	RD3.3E(B2)-T2	ZENER DIODE		
T R A N S I S T O R				
Q9001-02	2SC1959(Y)-T	SI. TRANSISTOR		
Q9003	2SA562TM(Y)-T	SI. TRANSISTOR		
△ Q9004	2SK1118	F.E.T.		
Q9005	2SD1409	SI. TRANSISTOR		
Q9006	2SC1959(Y)-T	SI. TRANSISTOR		
Q9008	2SA1370(E)	SI. TRANSISTOR		
Q9012	2SC1472K(AB)-T	SI. TRANSISTOR		
I C				
△ IC9001	FA5301P	I.C(MONO-ANA)		
O T H E R S				
△ F9001	CEM6002-001Z	FUSE CLIP		
△ FR9001	QMF51E2-4R0S	FUSE	4A	
△ FR9901	QRH127K-R22M	F R	0.22 Ω	1/2W K
△ FR9902	QRH127K-R22M	F R	0.22 Ω	1/2W K
△ FR9903	QRH127K-R22M	F R	0.22 Ω	1/2W K
K9902-03	CE41923-001	CORE SLEEVE		
K9905	CE42050-001Z	CORE		
△ LF9001	CE41775-003	LINE FILTER		
△ LF9002	CE41775-003	LINE FILTER		
△ PC9001	CHV17F-C1	I.C(PH.COUPLER)		
△ RY9002	CESK028-001	RELAY		
△ SW01	QSP4021-C06	PUSH SWITCH	POWER SW	
△ TH9001	CEK0009-001	P.THERMISTOR		
△ VA9001	ERZ-C10VK6216	VARISTOR		

V.SAW MODULE PW BOARD ASS'Y (FX-M004A)

△ Symbol No.	Part No.	Part Name	Description	Local
O T H E R S				
	FX-M004A	V.SAW MODULE PWB		

PACKING



PACKING PARTS LIST

△ Ref.No.	Part No.	Part Name	Description	Local
1	CP11224-A13	PACKING CASE		
2	CP11441-A0A	CUSHION ASSY		
3	AP3756-Z3	POLY BAG		
△ 4	QMP4808-200K	POWER CORD		
5	QPG6A012-03005	POLY BAG		
6	QPG6A026-03505	POLY BAG		
7	CM22924-001	X-RAY CARD		
△ 8	CQ40026-002	INST BOOK		